

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1356.—VOL. XXXI.

LONDON, SATURDAY, AUGUST 17, 1861.

(STAMPED.....SIXPENCE.  
(UNSTAMPED..FIVEPENCE.

**MR. JAMES CROFTS, SHAREBROKER,**  
No. 1, FINCH LANE, CORNHILL. (Established 17 years.)  
Mr. Crofts is a BUYER of shares in the following mines (cash on receipt of transfer, or exchanges made for other shares):—Brynford Hall, Herward United, Great Martha, East Caradon, Great South Tolgus, Herodfoot, Wheel Norris, Marke Valley, North Miners, North Downs, and Wheel Grylls.

Mr. Crofts is the section of the late Lamberree Wheel Maria Mine, now leased by the EAST WHEAL MARTHA COMPANY, in 6000 shares, has excellent chances of success. Mr. Crofts having acted as secretary to the Lamberree for nearly ten years is acquainted with the merits of the new mine, and will answer enquiries from the investing public.  
\* \* \* Holders of mining shares DIFFICULT OF SALE in the OPEN MARKET may hear of purchasers, and also parties IN ARREAR OF CALLS, or sued by merchants, may learn their true legal position and be advised how to act, by applying to Mr. Crofts.  
\* \* \* Every description of LIFE and FIRE SHARES BOUGHT and SOLD.  
SPECIAL BUSINESS IN EAST WHEAL MARTHA (LIMITED) paid-up shares, £2 10s. each.

**MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.**  
JAMES LANE has FOR SALE, at nett prices:—10 Alfred Consols, £114; 2 Billins, £184; 25 Crebor, 11s. 6d.; 20 Dale, 15s.; 3 Ding Dong, £154; 10 East Caradon, £244; 10 East Russell, £334; 50 Great Martha, 29s.; 30 Great Retailack, 21s.; 5 Gonomens, £244; 2 Herodfoot, £235; 2 (96th) Kilmorey, £235; 20 Lady Bertha, 16s.; 5 Ludcott, £224; 2 Mary Ann, £294; 20 Marke Valley, £10; 20 North Hallenbeagle, 21s.; North Downs, £54; 30 North Nant-y-Mwyn, 5s.; 5 Pant-y-buarth, £64; 10 Penhale Moor, £234; 50 Rosewarne Consols; 20 South Condurrow, 16s.; 3 Treilawny, £134; 5 Wheal Hearle, £10; 2 West Caradon, £394; 5 Wheal Anne, 21s.; 50 Ribden, 6s. 6d.; 20 Sortridge Cons., and 5 West Rhosomor, £124.  
Mr. Lane is a BUYER of Great Wheel Martha and Wheel Prosper.

**PETER WATSON, ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES,**  
79, OLD BROAD STREET, LONDON, E.C. 3  
Telegraphic messages to Buy or Sell Mine Shares punctually attended to.

**MR. W. LELEAN, MINE SHAREBROKER,**  
11, ROYAL EXCHANGE, LONDON, E.C.

**MR. LELEAN** is a BUYER of WHEAL SICILY SHARES, reported on by his agent on the 25th May last (see Journal of that date).  
11, Royal Exchange, London, E.C.

**MR. J. S. PHILLIPS, C.E. AND M.E., SHAREBROKER, &c.,**  
12, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, is now on a tour through the Cornish mines.

**MR. T. ROSEWARNE** begs to inform his friends that he has REMOVED from 81 to 75, OLD BROAD STREET, LONDON, E.C.

**T. ROSEWARNE has FOR SALE:**  
East Caradon, £234; Herodfoot, £35; So. Caradon Hooper, 15s.  
East Russell, £334; Hawkmoor, 9s. Sortridge, 12s.  
East Grenville, 39s. Hingston, 37s. 6d. W. Rose Down, £214.  
East Devon Consols, 40s. Lady Bertha, 16s. Wheal Edward, 35s.  
Grumb. & St. Aubyn, £11. Marke Valley, £10. Wheal Arthur, 7s. 6d.  
Gawton United, 2s. 6d. No. Downs, £44 (x. div.) Wh. Moyle, 40s. (call paid.)  
Gt. Wheal Martha, 30s. North Robert, 16s. 6d. Wheal Anne, 20s.  
Great Retailack, 21s. Stray Park, £254. Wheel Norris, 39s.  
An OFFER WANTED for:—Bedford Consols, Bronfloyd, Molland, Calstock Consols  
Furze Hill Wood, North Treilawny.  
August 16, 1861. Bankers: Bank of London.

**REMOVAL.—GEORGE RICE, SHAREBROKER,** has REMOVED from 10, Austinfriars, to more convenient offices, No. 1, FINCH LANE, CORNHILL. SPECIAL BUSINESS IN:—Caradon Consols. Great Retailack. North Downs. East Russell. Herodfoot. Sortridge Consols. East Grenville. Lady Bertha. Tolvadden. East Caradon. Marke Valley. West Caradon. Wheal Unity.

**MR. R. H. JACKMAN, MINING AND SHAREBROKER,**  
No. 2, ADAM'S COURT, OLD BROAD STREET, E.C.,  
BUYS or SELLS EVERY DESCRIPTION OF MINING SHARES at nett prices, or on commission.  
Shares advertised for sale free of charge. A daily list, with the closing prices, sent gratis on application. Telegraphic messages to buy or sell shares punctually attended to, and answered immediately, if required.  
Aug. 16, 1861. Bankers: London and Westminster, Lothbury.

**WILLIAM SEWARD, MINING BROKER, STOCK AND SHAREDEALER,** 26, THROGMORTON STREET, LONDON, E.C.  
Commission, 1½ per cent. on £100 and above, and 2½ per cent. on less sums.

**MESSRS. R. HORLEY AND CO., SWORN STOCK, SHARE, AND MINING BROKERS,** 45, CORNHILL, E.C. (late of 2, Royal Exchange-building), continue to TRANSACT EVERY DESCRIPTION OF MINING BUSINESS, and are in a position to obtain reliable information respecting all dividend and progressive mines.  
N.B.—Messrs. HONLEY and Co. publish a Weekly Mining List, with the closing prices every Wednesday, and will be most happy to forward the same (gratis) on application.

**MR. GEORGE BATTERS, 5, COWPER'S COURT, BIRCHIN LANE, DEALER IN BRITISH MINING SHARES AND OTHER SECURITIES.**  
Mr. BATTERS, from long experience and intimate acquaintance with all Mining Stocks, can advise as to investment of capital, at closest market prices, and has made a selection of Dividend paying and sound Progressive Stocks into which he can with confidence recommend investment at present depressed prices. The favourable turn in the market for metals, and the reduction in the Bank's rate of interest, would point to prices having seen their lowest for the present.  
Mr. BATTERS is a BUYER of West Bryn Gwlog, Bryn Gwlog, North Miners, Billins, Brynford, Herward, South Carn Brea, Carn Brea, Cook's Kitchen, Crookhaven, and Great Wheel Martha shares at market prices; and is a SELLER of 40 East Caradon, £24; 15 Marke Valley, £94; 100 Great Martha, 29s. 6d.; 100 North Miners, 32s.; 100 South Carn Brea, £294; 1 Carn Brea, £70.

**MR. GEORGE BUDGE, SHAREBROKER, No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C.** (Established 14 years), has FOR SALE at nett prices the following shares:—100 Great Trevedoe; 25 Tolcarne, £294; 100 Dale, 15s. 6d.; 50 Lady Bertha, 16s.; 50 North Miners, 32s.; 75 Great Retailack, 21s. 6d.; 100 East Grenville, 37s. 6d.; 5 Stray Park, £244; 3 Basset, £22; 2 Wheal Seton, £274; 2 South Frances, £122; 100 Great Caradon, £41; 45 Unity, 19s. 9d.; 20 Tolvadden; 15 East Caradon, £24; 5 West Bryn Gwlog, £30; 20 Great Wheel Martha, 27s. 9d.; 25 Great South Tolgus, £44; 50 Ribden, 5s. 3d.; 20 North Hallenbeagle; 100 North Nant-y-Mwyn, 4s.; 50 Birch Tor and Vitiifer, 41s. 3d.; 80 South Condurrow, 13s. 6d.; 5 Old Tolgus United, £15; 20 Crelake, £34; 3 Cook's Kitchen, £20; 2 South Caradon, £309; 5 Long Lake, £10; 5 Billins, £17; 25 Deep Level, 6s.; 20 Marke Valley, £274; 4 Herward United, £13; 40 Wheal Grenville, 32s. 6d.; 100 West Tolgus; 50 West Polmar, £1; 25 Great Wheal Busy, £4 11s. 9d.; 100 Silver Vein; 35 Treilack; 50 Crane.  
Sellers of all description of mining shares difficult of sale, likewise holders of life and fire insurance shares, may find purchasers through Mr. Budge.  
Daily lists of prices forwarded on application.

FIFTEEN TO TWENTY, and even TWENTY-FIVE PER CENT. PER ANNUM upon current value of shares, in CORNISH TIN and COPPER MINES.  
Dividends payable two-monthly or quarterly.

**MESSRS. TREDINICK AND CO., MINING ENGINEERS,** SEND THEIR SELECTED LIST OF SOUND PROGRESSIVE AND DIVIDEND SHARES upon the receipt of a Fee of One Guinea.  
Review of Cornish and Devon Mining Enterprise, 5s. per copy.  
Maps per post of the Buller and Basset, Great Vor, Alfred Consols, the Providence and Margaret Districts, 2s. 6d. each.  
Cornish Mines, well selected, pay better than any other description of securities, are free from risks, and entail less responsibilities than banks and other joint-stock companies. Shares bought and sold on commission of 2½ per cent.  
Money advanced at 10 per cent. annually, for short or long periods, upon approved Mining Shares.—78, Lombard-street, London, E.C.

**BRITISH AND FOREIGN STOCK, RAILWAY, AND MINING SHARES BOUGHT AND SOLD.** A considerable amount of money is locked up in mining shares not prominently before the public, and consequently difficult of sale. Messrs. FULLER AND CO., 26, CHANGE ALLEY, CORNHILL, LONDON, invite the holders of such stock to communicate with them, having channels for the purchase and sale of shares of every description, independent of the mining market.  
FOR SPECIAL SALE:—Messrs. Fuller and Co. have £2000 worth of shares on hand, paying regular dividends of from 12½ to 15 per cent. Also, £2750 worth of progressive shares, upon which from 200 to 300 per cent. profit may be realised in a few months, and perfectly free from risk. Full particulars may be had.  
Telegraphic messages promptly attended to.  
Bankers: Bank of England.

**GEORGE MOORE,**  
1, CROWN COURT, THREADNEEDLE STREET.  
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

**JAMES HERRON** has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:—

20 Alfred Cons., £1 6s. 9d.	5 Hings. Down, £1 17s 6d	15 S. Carn Brea, £3½
2 Bryn Gwlog, £27½	2 Herodfoot, £34½	3 Stray Park, £25½
3 Billins, £18	15 Holmbush, £1 11s. 9d.	80 So. Condurrow, 10s 9d.
1 Buller, £29½	2 Herward Utd., £7 15s.	20 So. Car. Hooper, 15s 9d
20 Bottle Hill, 7s. 9d.	1 Kitty (Lelant), £7½	1 South Caradon, £302½
20 Bon Accord, 22s. 9d.	20 Kelly Bray, 16s. 9d., x. cl.	2 St. Ives Cons., £32
1 Carn Brea, £67½	30 Lady Bertha, 17s. 9d.	60 Sortridge Cons., 11s 6d.
2 Cobre, £36	30 Lady Eliza, 19s. 9d.	30 St. Day, 12s. 9d.
30 Cefn Cilcen, 13s. 6d., ex call.	10 Linares, £7	2 So. Bryn Gwlog, £13½
20 Camborne Vein, 36s. 9d.	3 Long Lake, £10½	2 South Basset, £12
5 Craddock Moor, £23½	10 Laddock, £2 16s. 9d.	1 South Wheal Frances, £12½
40 Carn Camborne, 20s. 9d.	5 Marke Valley, £10 1s 9d	1 Silver Lake, £17
5 Caradon Cons., £7	2 Mary Ann, £8 18s. 9d.	1 West Caradon, £40½
3 Carrall, £14½	20 North Miners, 30s. 9d.	2 W. So. Caradon, 18s 9d
5 Calvadack, £7½	1 North Basset, £2 19s 6d	50 Silver Bank (18s. paid)
1 Cook's Kil., £25 10s.	1 North Trekerby, £21	13s. 6d.
20 Cumberland Black Lead.	10 North Robert, 15s.	1 Treilawny, £14 2s. 6d.
10 Cardigan Consols.	20 New Treleigh.	1 West Seton, £28½
30 Cudra, 35s.	100 Nantoes and Penrhylw.	30 Tamar Con., £1 13s 9d
5 Dale, 14s. 3d.	1 New Seton, £46	30 Utd. Mexican, £4 17 6
20 Deep Level.	100 North Rhine, 7s. 6d.	80 Vale of Towry, 4s. 10d.
20 Drake Walla, 14s. 6d.	10 North Dolcoath, 6s. 6d.	4 W. Rose Down, £20½
1 Devon Great Cons., £355	20 Nant-y-Iago, 14s. 9d.	15 West Stray Park, £2½
20 East Russell, £3 6s. 9d.	35 North Providence (offer wanted).	2 West Sharp Tor, £36½
5 East Carn Brea, £7	15 North Crofty, £5 18s.	2 Wheal Unity, 19s. 9d.
25 East Grenville, 37s. 9d.	2 New France, 9s.	1 West Seton, £28½
2 E. Caradon, £22 18s. 9d.	2 North Roskare, £16½	1 Wheal Clifford, £17½
20 English and Australian Copper, £3 10s. 9d.	5 Old Tolgus, £16½	60 Worthing, 13s. 6d.
50 East Wheal Martha, par.	40 Penhale Moor (an offer wanted).	5 Wen. Con., £12 18s 9d.
60 East Kongsberg (fully paid up £5), an offer wanted.	40 Port Phillip, 21s.	30 Wh. Grenv., 26s. 9d.
1 East Basset, £75½	2 Providence, £34½	10 Wheal Harriet.
10 Gt. S. Tolgus, £3 3s. 9d.	50 Prosper United.	1 Wh. Margaret, £40½
1 Grambler, £10½	1 Rosewarne Utd., £22½	15 Wh. Edward, £1 16s 9d
20 Great Alfred, 9s.	20 Rosewall Hill & Ransom, 2s.	5 Wheal Uty, £4
60 Great Moelwyn, 18s.	50 Redmoor, 2s. 9d.	20 West Polmar, 20s. 9d.
5 Gonomens, £2	50 Ribden, 4s. 9d.	1 Wheal Clifford, £17½
20 Great Vor.	20 Rosewarne and Herland.	40 West Tolcarne, 8s. 6d.
40 Great Northern Copper, 28s. 6d.	20 St. John del Rey, £35½	1 Wheal Seton, £27½
5 Great Fortune, £11½	20 St. Ives Wheel Allen (an offer wanted).	1 Wheal Moyle.
20 Great Retailack, 19s. 9d.	25 Silver Vein, 19s. 6d.	5 Wheal Hearle.
And is a BUYER of 200 Great Martha, 20 Old Tolgus United, 100 North Miners, and 100 West South Caradon.	2, Adam's-court, Old Broad-street, August 16, 1861.	15 Wh. Prosper (an offer wanted).

**MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS OF MINES, COMMISSION, AND GENERAL AGENTS FOR THE PURCHASE OR SALE OF MINE SHARES, RAILWAY, AND EVERY OTHER DESCRIPTION OF STOCK.**  
Commission on share transactions, 1½ per cent. on £100 and above, and 2½ per cent. for less sums.

**MR. C. POWELL, MINE SHAREBROKER,**  
2, SPREAD EAGLE COURT, FINCH LANE, LONDON, E.C.

**MR. EDWARD COOKE, 5, HERCULES PASSAGE, THREADNEEDLE STREET, LONDON, E.C.,** will feel much pleasure in advising those who may favour him with their confidence on the merits of the various mines usually dealt in, and also on any new concerns that are from time to time brought before the notice of the public. Much loss and disappointment may be prevented by a proper amount of caution on the part of the investor. From frequent personal visits into the mining districts, together with many years' experience of the mining market, EDWARD COOKE hopes to be enabled to render sound advice to parties availing themselves of his services, and prompt cash in all transactions entrusted to his charge.  
PURCHASES and SALES in RAILWAY and all OTHER SHARES effected at the usual commission.  
Aug. 16, 1861. Bankers: London and Westminster, Lothbury.

**JOHN WM. HUTCHINSON** has FOR SALE at nett prices, and for immediate delivery:—  
20 Alfred Consols, 21s. 3d.  
1 Basset, £20.  
1 Buller (offer wanted).  
2 Grambler, £11½.  
5 Hearle, £8.  
25 Kelly Bray (2s. 6d. call paid), 15s.  
78, Old Broad-street, E.C., August 16, 1861.  
5 Kitty (Lelant), £6½.  
2 Margaret, £40½.  
3 Margery, £5 1s. 3d.  
3 North Crofty, £5 5s.  
10 Penden, £5½.  
20 Prosper United, £3½.  
1 Seton.  
1 St. Ives, £31.  
20 St. Frances, £120.  
1 Trencrom (offer wanted).  
1 Treilawny, £14.  
20 Tamar, £1½.  
2 West Caradon, £38½.  
20 Wheal Norris, £2.

**MR. H. G. YEULETT** has REMOVED his OFFICES to ST. MICHAEL'S CHAMBERS, CORNHILL, where he continues to TRANSACT BUSINESS IN MINING, RAILWAY, BANK, and BRITISH and FOREIGN STOCKS and SHARES of EVERY DESCRIPTION.  
H. G. YEULETT has BUSINESS in the FOLLOWING SHARES:—  
East Caradon. East Russell. Dale. Herodfoot. East Grenville. Cook's Kitchen. North Downs. Marke Valley.

**JOHN RISLEY, SHAREBROKER,**  
32, LOMBARD STREET, LONDON, E.C.

**MR. THOMAS SPARGO, SHAREBROKER,**  
224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.  
Commission, 2½ per cent.

**RICHARD CLIFT, MINE SHAREDEALER,**  
late of Rodruth, now 48, THREADNEEDLE-STREET, LONDON, where all letters are to be addressed.

**MR. E. GOMPERTS, MINING OFFICES,**  
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.  
BUSINESS TRANSACTED IN BRITISH AND FOREIGN STOCKS and SHARES.  
Terms, 1½ per cent.—Bankers: London and Westminster Bank.

**JOHN GLEDHILL AND CO., MINE AGENTS AND SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.**

**MESSRS. THOMAS PENROSE and THOMAS PRICE** UNDERTAKE ASSAYS and ANALYSES of EVERY DESCRIPTION of MINERAL PRODUCT, FUEL, and MANURES, at Messrs. Richardson and Co.'s Assay Office and Laboratory, Copper Ore Wharves, Swansea.

**MR. J. SYKES, LEAK, STAFFORDSHIRE,** is in a position to advise speculators as to the purchase of shares which will increase in value 100 per cent. in twelve months. The opportunity should not be lost. He will guarantee 25 per cent. of the loss, if he be allowed 25 per cent. of the profits.  
FOR SALE:—10 Great Retailack, 20s. WANTED:—20 Dale, state lowest price.

**STOCK AND CO., LEAD AND SILVER SMELTERS,**  
PENCLAWDD, NEAR SWANSEA.

**MESSRS. C. TOOKEY, F.C.S., AND M. W. JOHNSON, F.C.S.,** ASSAYERS, ANALYSTS, AND CONSULTING CHEMISTS, LABORATORIES, 44, LINCOLN'S INN FIELDS, W.C.

**THE MIDLAND IRON COMPANY, ROTHERHAM,** MANUFACTURERS of BEST "YORKSHIRE," and of STEEL IRON TYRE BARS, for LOCOMOTIVE ENGINE, CARRIAGE, and WAGON WHEELS. Also of REPILED, SCRAP, STEEL IRON and "YORKSHIRE" BARS, HOOPS, RAILS, ANGLE IRON, MALLEABLE SHAFTS, AXLES and FORGINGS.

**CHARLES DAVEY AND CO.,** SAFETY FUSE MANUFACTURERS, ST. HELEN'S JUNCTION, LANCASHIRE.

**MR. MURCHISON'S REVIEW OF BRITISH MINING** FOR THE QUARTER ENDING 30th MARCH, 1861, is NOW READY. Price One Shilling. At 117, Bishopsgate-street Within, LONDON, E.C.

**MR. T. P. THOMAS, MINING AGENT AND AUCTIONEER,** 2, CROWN COURT, THREADNEEDLE STREET, LONDON.

**MR. T. E. W. THOMAS, MINING AGENT AND GENERAL MINING SHAREDEALER,** 16, HACKINS HEY, LIVERPOOL.  
The following SHARES have been placed in the hands of Mr. Thomas FOR SALE, at the prices affixed, free of any commission:—  
20 Mount Pleasant (div.), 10 So. Bryn Gwlog, £14½. 30 North Crofty, £6½.  
£24. 20 Crowlwin, 10s. 50 Carn Camborne, 21s 6d.  
100 North Miners, £1½. 100 So. Condurrow, 12s. 6d. 400 Ribden.  
100 Lower Park, 17s. 6d. 50 South Gernick, 4s. 6d. 50 Dulta (Tin, Limited).  
100 Colomendy, £1. 10 Rosewarne and Herland, 100 East Kongsberg Silver  
10 Brynford Hall, £9½. £1 5s. (£5 fully paid up), at  
10 Herward United, £9½. 20 East Seton, 3s. 6d. £3½.

**JOHN R. PIKE, GENERAL SHAREDEALER,**  
3, PINNER'S COURT, OLD BROAD STREET, E.C.

**FREDERICK WILLIAM MANSELL, MINING OFFICES,**  
1, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.  
Bankers: London Joint-Stock Bank.

**MR. JOSEPH GREGORY, MINING OFFICES,**  
1, BANK CHAMBERS, LOTHBURY, E.C.  
BUSINESS TRANSACTED IN BRITISH AND FOREIGN STOCKS and SHARES.  
Terms, 1½ per cent. on £100 and above, 2½ per cent. on smaller sums.  
Bankers: City Bank, Threadneedle-street.

**MR. JAMES HAMMON, STOCK AND SHAREDEALER,**  
1, CROWN COURT, THREADNEEDLE STREET, LONDON.

**GREAT TREVEDDOE.—TWENTY SHARES FOR SALE,** at 40s. per share.—Apply to "R. L., Messrs. Hickson and Co., 14, Mincing-lane, London, E.C.

**DEVON NEW COPPER MINING COMPANY (LIMITED).—**THREE HUNDRED AND FIFTY paid-up (£2) SHARES in this mine TO BE SOLD, at £1 5s. per share.—Apply to Messrs. Ellis and Co., 2, Royal Exchange-buildings, London.

**GREAT CRINNIS MINE.—AN OFFER WANTED** for TEN SHARES in this mining company, calls all paid up. Any reasonable sum will be accepted.—Apply, JACOB LILLY, 23, Vicar-lane, Leeds.

**GREAT WHEAL MARTHA MINING COMPANY (LIMITED).—SHAREHOLDERS** in this company are REQUESTED to FORWARD their OLD CERTIFICATES to the offices of the company, 23, Moorgate-street, London, to be EXCHANGED for NEW ONES. By order, E. EVANS, Sec.

**A LARGE FORTUNE** may be REALISED for ONE POUND only.—For particulars, apply to Mr. FREDERICK SMITH, banker, of Frankfurt-on-the-Maine, or letters addressed to him, 28, Clement's-lane, Lombard-street, London.

**COPPER AND LEAD MINES IN MONTGOMERYSHIRE.—**TO BE DISPOSED OF, IN SHARES, most PROMISING WORKS, within five miles of the contemplated railway to Llanfyllin from Oswestry.—Apply to Mr. ROYLE, solicitor, Llanfyllin.

**TIMSBURY COAL WORKS.—WANTED, a CLERK** and ACCOUNTANT, to MANAGE the above WORKS and KEEP the BOOKS of the company, and also to DISCHARGE the DUTIES of TRAVELLING AGENT, his time to be exclusively devoted to them. Security will be required. Character and references must be unexceptionable. Applications, in writing, stating salary required, are to be addressed TIMSBURY COAL COMPANY, Timsbury, near Bath, and must be sent in or before the 24th inst.—Timsbury, August 8, 1861.

**TO COLLIERY PROPRIETORS.—IMPROVED SELF ACTING TIPLERS and SCREENS,** for LOADING COALS at the FITS with dispatch, and ENTIRELY PREVENTING BREAKAGE. Manufactured by WILLIAMS and MOWLE, Egerton-street Foundry, Chester, where models and testimonials may be seen, and every information obtained. Prices moderate. Delivered at any railway station.

**TO CHEMICAL MANUFACTURERS, SMELTERS, AND OTHERS.—A YOUNG GENTLEMAN,** thoroughly acquainted with practical chemistry and assaying, is DESIROUS of MEETING with a SITUATION in the ABOVE WORKS.—Address, "F. C. S.," 296, Glossop-road, Sheffield.

**TO CAPITALISTS.—THE PROPRIETORS** of a FIELD of ONE THOUSAND ACRES of STEAM and BITUMINOUS COAL in SOUTH WALES (the latter being in full operation), possessing special advantages, are DESIROUS of JOINING any CAPITALIST PREPARED to INVEST £40,000 in the UNDERTAKING.—Apply to "A. B. M.," Post-office, Bridgend, Glamorganshire.

**SLATE QUARRIES, IRELAND, TO BE LET OR SOLD,** by the owners in fee. Slates of bluish colour, and fine grained metal veins, inextinguishable. Constant water-power. Paying at present 30 per cent. Present samples equal to any Welsh. Situate four miles from Carrick-on-Suir (to which place the River Suir is navigable for vessels of 200 tons), and the railroad station 14 miles from the city of Waterford.—Apply to Wm. DESPARD, Corralgarra, Waterford.

**SLATE QUARRIES IN WALES.—TO INVEST, an amount,** according to circumstances, in a SOUND UNDERTAKING, worked either privately or by a company.—Address, "G. S.," Mr. Lindley's, 19, Catherine-street, Strand, W.C.

**NEW QUARTZ CRUSHER.—A gentleman** has the DISPOSAL of an AMERICAN INVENTION for CRUSHING QUARTZ, capable of reducing to powder 7 to 8 tons per day with 5 horse power. The machine can be sold for less than £100.—For particulars, address "C. W. L.," Mining Journal office, 26, Fleet-street, London, E.C.

**NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OZZELL STREET NORTH, BIRMINGHAM.**  
STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—REFINED METALLIC NICKEL. OXIDE OF COBALT. [WIRE, &c.] REFINED METALLIC BISMUTH. GERMAN SILVER—IN INGOTS, SHEET NICKEL AND COBALT ORES PURCHASED.

**THE CROWN PRESERVED COAL COMPANY (LIMITED).**  
Capital £50,000, in 10,000 shares of £5 each.  
Sir RALPH HOWARD, Bart.—CHAIRMAN.  
OFFICES.—62, MOORGATE STREET, LONDON; and BUTE DOCKS, CARDIFF.  
THE FIRST ORDINARY MEETING of shareholders was held at the company's office in London on Friday, the 9th of August. The directors' report and the balance-sheet were presented, exhibiting a profit at the rate of nearly 9 per cent. per annum, which it was deemed advisable to carry over for the present.  
Every statement made in the prospectus issued at the commencement of the company has been fully corroborated in actual operation.  
The largest steam navigation companies in the kingdom continue to use the fuel, and repeat their orders.  
The saving of space, as compared with coal, combined with the fact of its possessing the greatest evaporative power of any fuel known, renders it the cheapest ever introduced. It is not liable to spontaneous combustion, neither does it emit gas or smell of any kind.  
A second series of works have just been completed, at a cost less than half that of the old works, by which the production will be doubled. The fixed expenses being thus lightened, it is expected the profits must proportionately increase.  
Copies of the report, prospectus, testimonials, &c., together with forms, may be had by applicants for shares, addressed to H. FLETCHER, Secretary, 62, Moorgate-street.

The Miner's Association of Cornwall and Devonshire.

**THE MINER'S ASSOCIATION OF CORNWALL AND DEVONSHIRE.—THE ANNUAL MEETING** of the above association will be HELD at the Committee Room of the Polytechnic Hall, Falmouth, at Two o'clock, on WEDNESDAY, the 18th day of September next, when an address will be delivered by the President, CHAS. FOX, Esq.; a report and important communications will be given by the General Honorary Secretary, ROBERT HUNT, Esq., F.R.S.; and papers by other gentlemen read on mining and mine engineering.  
The Council request that all papers proposed to be read at the meeting should be forwarded at least one week before such meeting, to Mr. HUNT, at Fortreath, near Redruth; or to the undersigned.  
ALMOND E. PAULI, Local Hon. Sec., Camborne.  
Dated August 12, 1861.



## Original Correspondence.

## THE CLAY CROSS INUNDATION.

Sir,—The investigation regarding this dreadful affair has been brought to a close, exculpating the manager of the works, but throwing reflection upon certain minor officials "for neglecting their duty under the colliery rules, and recommending that in the absence of any ordinary deputy a well-qualified person shall be appointed to fulfil the duties of such deputy." Without wading through the whole of the evidence it seems difficult to understand the import of this verdict; therefore, it may be instructive to recur to the general circumstances of the case. Mr. Binns is the manager of the present Clay Cross colliery, and was also the manager of the old colliery, including the keeping of the plans, &c.; and it now appears that the plans of the old colliery were fatally incorrect, inasmuch as certain workings were neglected to be placed upon the plan, which workings were in advance of the general face about 40 yards, and it is the unexpected contact with these workings which has produced the fatal event. Now, as various calamities have occurred by new workings coming in contact with old wastes, whose true position was unknown, the subject was mooted during the late discussion for the formation of rules attached to the present Act to avoid such events, and were accordingly made the subject of the 15th general rule, "For keeping sufficient bore-holes in advance, and, if necessary, on both sides, to prevent inundations in every working approaching a place likely to contain a dangerous accumulation of water." The manager, however, in this case, relying upon the plan, imagined he had such an amount of coal barrier as to dispense with the precautionary formality of boring, and this allegation is justified by the evidence of Messrs. Woodhouse, Bean, Jeffcock, and the Government Inspector, Mr. Hedley; and they also allege that if a boring had been carried on it would not have discovered the waste, as it would have been executed on the top coal, whereas the main body of the water was contained in the full height of the seam. A peculiarity attaches to this line of evidence which is material to notice—all their remarks apply to a bore-hole. Now, to approach such a waste as this by means of a single hole would have been as reprehensible as no boring at all, the authentic principle being three holes in the advanced drift—one in front, and one upon each flank, the flank holes bored within 3 or 4 yards of each other, which system would to a certainty have found the waste. With respect to blame attaching to the colliers or the under agents, although a general knowledge prevailed that the old workings were filled with water, yet few or none of these persons might be so well acquainted with the representations set forth by the plans as to form a judgment as to the danger, for this point was not urged in the examination. Viewers in general are very chary in exhibiting the colliery plans, even to their own sub-agents, and colliers are very naturally afraid of incurring blame in raising a question of this sort, trusting implicitly to the conduct of the manager. Undoubtedly, if they had in this case requested an examination by the Inspector, he would certainly have recommended that the exact position of the waste should be tested by one or more bore-holes, and so have averted the calamity; and it should act as a warning to colliers to demand the aid of the Inspector in cases where the position of the respective workings are not to a certainty ascertained, as very little reliance ought to be placed upon plans made many years previous, and with instruments having different bearings to those in present use.—*Barnsley, Aug. 10.* A COLLIER.

PRACTICAL PAPERS ON COLLIERY OPERATIONS—No. X.  
VENTILATION OF MINES.

Sir,—The proper distribution of air throughout the mine, and the laying out of the workings in a systematic manner, is of far greater importance than the production of a quantity of air, however great, providing it is not justly apportioned throughout the workings. It is not only possible that one portion of the workings of a mine be well ventilated whilst others are not fit for anyone to enter, but this is the actual condition of many mines at the present time. Probably this is one of the greatest sources of annoyance the Inspectors have to contend with, for it renders it necessary on their part to examine the whole of the workings, in order to ascertain the sanitary state of the mine. This cannot be done without much physical exertion, and to expect that the present staff of Inspectors can do so is simply to expect them to perform impossibilities.

As was stated in my last letter, it is always better to have the upcast shaft on the rise of the downcast, and if it can also be on the rise of the workings it is all the better. This is not always convenient, but after the first rank has been worked out it is always practicable where the principle of driving the narrow work to the boundary, and working the coal back from the boundary to the shaft, is adopted. Those who have never tried the principle of having an air-course maintained on the extreme rise of the workings, parallel with the main wagon-road, for the purpose of a return air-course, will do well to do so, and in all probability they will continue to ventilate upon the principle of allowing as much to be done by natural means as can be. It is possible to conceive anything more absurd than to drag a gas of the light specific gravity of carburetted hydrogen down the angle of the mine past the working faces of, perhaps, twenty or thirty men, and then allow the same current of air to ascend another brow, for the purpose of being dragged down a second time, and, finally, when it has collected all the impurities it can, to pass to the upcast shaft along the main wagon-road, where all the men have to travel to and from their work, and where all the horses, drivers, &c., are engaged all the day long. The expense of keeping open an air-course on the rise of the workings is but slight, compared with the advantages it offers, for by this system of ventilation, after the main wagon-road and the level above it have been driven a distance of 300 or 400 yards, a brow may be cut up to communicate with the air-course on the rise of the workings, and the two levels may be used for outgoing currents of air, instead of one being used for the return current, as is almost universally done. This would somewhat compensate for the loss sustained by friction in all air-courses or passages. Another advantage is that the air, after having passed one set of workings, is passed off into the air-course that is not travelled or entered unless for the purpose of examining or repairing it. It also relieves the furnace, or ventilating agent, to a great extent.

On one occasion I found a colliery ventilated upon the principle of dragging the light carburetted hydrogen (which was freely given off) and the heated air down the incline of the mine, and by simply reversing the currents of air, and making two additional divisions of the air, at a cost not exceeding 10%, I more than doubled the quantity of air with the same consumption of fuel at the furnace, and dispensed with the use of six air-doors. If the mechanical laws of elastic fluids were better understood by colliery managers and others immediately concerned in the ventilation of mines, we should have fewer impracticable schemes attempted, and it would not then be necessary, as it is at the present time, for the major part of colliery managers to prove by experiment, at considerable loss to their employers, whether they can successfully act in violation of the natural or fixed laws by which the ventilation of mines must to a considerable extent be governed.

I will briefly refer to one or two of the most important in getting to the correct principles of ventilating mines. By Boyle's or Mariotte's law the elastic force of a gas or air at a given temperature is inversely proportional to the space which it occupies. Let  $p$  = elastic force of a gas when it occupies the space  $s$ ,

$$p = \frac{do.}{s}, \quad p = \frac{do.}{s}, \quad S,$$

The elastic force of a gas at a given temperature is proportional to its density. By Dalton's and Gay-Lussac's law all gases under the same pressure undergo equal expansion for equal increments of temperature. These eminent philosophers ascertained that 100 measures of air expand to 137.5 measures on being raised from 32° to 212° Fahr. Amonton's law is the relation between the elastic force, density, and temperature of any gas. If, then, the volume of a gas be constant, its elastic force will increase; and if the elastic force be constant, its volume will increase for every increase of temperature. Another important principle is that the volume of air discharged from the end of a pipe or tube is directly proportional to the square of its diameter, and inversely as the square root of its length. By these very important principles we are shown the necessity of shortening our air-currents, and having our air-courses as capacious as practicable. According to the laws laid down by these illustrious men, we can obtain twice as much air in a passage containing a sectional area of 40 ft. as in one only containing 20 ft. sectional area—that is, assuming the respective passages, or air-courses, to be of one uniform size and free from obstructions. This principle is as correct as required for practical purposes, and, probably, the violation of it leads to as many lives being lost and to the health of others impaired as the neglect of any other branch of ventilation.

It is often violated by allowing the air-courses to partially fill up by falls of dirt, or by the floor lifting or creeping, or by setting timber to project into the air course, or by leaving tube standing for a long time together in the air-course; in short, anything that lessens the sectional area of the air-courses impairs the ventilation of the mine, but not in the same ratio as before given, unless the whole length of the air-current is obstructed. I am quite aware that it entails the additional expense of having extra men and extra timber to keep the air-courses their original size and free from obstructions; and that, in the present fearful race of competition which so many are engaged in, it is necessary to keep down all expenses that can be, in order that the colliery may barely pay its way, and bring back the capital expended in sinking shafts and erecting engines. But any saving effected at the expense of allowing the ventilation to be impaired can only be considered as false economy.

The advantage derived from splitting or dividing the air currents, and consequently shortening the distance the air has to travel, becomes apparent from the principles previously given, but its importance demands a further explanation. Supposing that the air-courses are of equal sectional area, the speed of the air currents, and consequently the volumes, would be proportional to the square root of their length; consequently, if we had two air-courses of the same sectional area, and the one was 200 yards and the other 1800 yards long, the proportion of air passing through them, assuming them to be free from obstructions, and all other circumstances continuing the same, would be as 14.1 to 42.4; so that, in round numbers, we should have three times the quantity of air passing through the short air-course as through the long one. Nearly the same difference exists with respect to the drag, or resistance, of an air-current when travelling through the passages of the mine. The rule bearing upon the velocity of currents is that the resistance is as the square of the velocity of the current when the impulse is direct; consequently, if a current of air passes through a passage of the mine at the speed of 3 ft. per second, and another at 6 ft. per second, under the same circumstances, the resistance or drag of the air currents bears the same proportion as 9 does to 36. The resistance or drag increases in the same proportion if higher velocities are attained.

As I have before stated, much depends upon the extent of the workings, the quantity of gas generated, and the number of men and horses engaged, as to what quantity of air is sufficient to ventilate a coal mine; and, therefore, no minimum quantity of air can be fixed. But a few remarks may be offered upon the maximum quantity of air that ought to be passed through the mine in one volume, and the velocity of the currents. It is practicable for the air to travel at a speed of 15 miles per hour, or 22 feet per second, in some of the passages approaching an upcast shaft, where there is a powerful furnace employed. It is hardly necessary to say, from what has been previously adduced, that such velocities are attended with great loss by friction. The maximum speed of the currents in the main air-courses ought not to exceed five miles per hour, or 7.38 ft. per second. If the air-course is of 26 feet sectional area, the quantity of air passed through would be 15,832 feet per minute. This velocity is far too great for a current of air passing by the working face of the miner. I should consider it advisable to split, or divide, a current of air, if so much were required to pass one set of workings that would render it necessary for the velocity to exceed 2 miles per hour, or 2.93 ft. per second.

With these principles before us, can it be wondered at that the furnace, or other ventilating agents, should produce such different results at one colliery from what they do at others, or even at the same colliery, when the air courses are lengthened, and obstructions to the currents of air are allowed to accumulate? It would be quite as reasonable to expect that the same power could move an equal weight on the old pack-horse roads of the last century as upon our modern turnpike-roads, as that it can move the same quantity of air through a tortuous, cramped air-course as through a capacious one, where all is smooth, and of uniform size. Independent of the obstructions offered by having small and irregular air-courses, much loss of air is experienced in conducting a current to the extreme workings of some collieries, from having imperfectly constructed doors and stoppings. I do not wish it to be inferred that I entertain the idea that the calling of a collier can be rendered anything like so safe and healthy as many other occupations, but if it is beset by more than ordinary dangers and difficulties, does it not forcibly point out the necessity for increased vigilance and watchfulness being exercised by those placed in the responsible, and often inadequately paid, situation of colliery managers? In all probability my views and ideas of the duties of colliery managers, &c., will be given in a future letter.

As I have previously stated, the Davy lamp is a sufficiently safe and delicate instrument to detect the presence of fire-damp. A safety-lamp in good condition may be taken into any accumulative body of fire-damp without the slightest risk, whilst the presence of fire-damp can be detected long before it is at the explosive point. For this use its illustrious inventor clearly intended it, and it remains an invaluable instrument for that purpose. The rest of the gases and impurities of the mine that are deleterious to health, may be detected in the atmosphere by those delicate and beautiful organs with which Nature has endowed us—the eye and the nose. The smell is a most delicate test, and by it most, if not all, impurities may be detected before they are very dangerous to the health, although habit may to some extent have blunted our perceptions, and caused us to slight those disagreeable odours which we are so often assailed with in the mine, and which are proved beyond doubt to be life-destroying. I, therefore, maintain that no colliery manager, if he attends to his duties, can be ignorant of the fact that he has a badly ventilated mine under his control. Nor can he deceive himself as to what is required to make the mine tolerably healthy and safe; for by the first law of Nature (self-preservation) he is called upon to remove the sources of danger by ventilation, and not to adopt the temporary expedient of using the safety-lamp exclusively, an expedient that will sooner or later fail, and bring with it the most disastrous and ruinous effects both upon employer and employed. It may be contended that some coal mines cannot be ventilated to render them safe to work with naked lights. If so, I can only say that it has not been my lot to have to contend with any of that nature, nor even see any, although my first situation was to take the underground management of a colliery where one of those calamitous occurrences had taken place immediately before accepting the situation. And, if opinions are worth anything, I give it as my candid opinion that we have no mines but what may be successfully and safely worked with naked lights, excepting on rare occasions, but not if the coal has been partially wrought in the objectionable and dangerous manner previously described. There are several collieries that I am acquainted with in which I should as soon recommend the manufacturing of gunpowder by candle light, as the use of the naked lights in their present state; but if the workings had been laid out in a systematic manner, and all principles of getting coal had not been violated, no difficulty would have been experienced in ventilating them so as to have rendered it safe to work with naked lights.

Having so recently stated my views at considerable length on the causes of explosions and sudden outbursts of gas, I do not feel desirous of recapitulating them, as it might be tedious to those who have read the pamphlet referred to, but it may be necessary to say that one thing should be especially guarded against—that of having more workings open at one time than the current of air at command can effectually ventilate. Whatever your quantity of air, regulate your works accordingly, and vice versa. Do not attempt great things with small means in the ventilation department, or you are certain to meet with disappointment, perhaps grief. A great deal more fire-damp is generated in most mines on their first being opened out than when the coal has had an opportunity of draining itself of this gas. When narrow working is being driven in a fiery seam, it is better to use brattice cloth to conduct a current of air to the working face of each collier. Sometimes in doing this much loss of air is experienced by having the sectional area of the division of the air course much too small, and attempting to force as great a quantity of air through a space of 10 ft. as through one of 30 ft. sectional area. In most cases it is wise to allow a portion of the current of air to escape in its natural course at the point from which the bratticing is commenced. Another important consideration is that discipline should be maintained amongst those whose duty it is to attend to the ventilation of mines, by carrying out instructions entrusted to them. It appears hard at first sight to imprison a workman for neglect of duty, but when it is considered how disastrous the consequences are that follow close in the rear of negligence, it must be admitted that it sometimes becomes necessary to take such steps as will deter others from taking a like course.

Since writing the present paper the country is again thrown into a state of excitement by the sad intelligence of the loss of twelve valuable lives, and the narrow escape of many others, by one of those reckless and preventable causes that has wrought such fearful destruction amongst the poor miners of this country. A newspaper article is sometimes written for the purpose of showing how ignorant, thoughtless, and reckless the miners are

as a body. What can we expect when we see men supposed to be educated having a furnace in close proximity to a shaft lined with timber, but that the miners engaged at a place, so managed, should be reckless also. I am grieved at having an opportunity to make such remarks as these, and justify myself for so doing by the necessity which exists for having a more intelligent class of colliery managers than at present. In my last letter will be found an effectual safeguard against such accidents as the one under consideration. What would have been the expense, compared with what it will now cost, to say nothing of the grief occasioned and the loss of twelve valuable lives? JOS. GOODWIN.

## MR. HUGHES'S SYSTEM OF VENTILATION.

Sir,—In last week's Journal I find that Mr. Hughes has replied to the remarks offered by me on his principle of ventilation. He says that "I keep from view the fact that if a pipe happens to be broken it is an accident that may easily be remedied, and that the result would not be more dangerous than the closing of the level if the pipes were not there, and that the tendency of the pipes would be to keep the air-passages open." Mr. Hughes is doubtless so well acquainted with the mechanical laws of elastic fluids that it will not be difficult for him to see that if a pipe, or the joint of a pipe, becomes deranged, the air will escape at the nearest point, and find its way back to the upcast, whilst it would allow the workings beyond that point to become charged with an explosive gas. Mr. Hughes probably not having seen the danger consequent upon moving large bodies of accumulative gas, may look upon this as only of slight importance. It is easily seen that the floor lifting to an extent that would derange the strongest joints would still leave space for the air to pass in its usual course in one case the certain tendency would be for the air to rush back to the shaft, there being no doors or stoppings to prevent it, whilst in the other case it would continue in its proper course, the effect would be to diminish the quantity passing. Mr. Hughes appears to have overlooked my main objection to his system—that of it being simply impossible for air liberated beyond the old workings to find its way through, as he has studiously avoided referring to it. I have not the slightest wish to do anything that may prevent Mr. Hughes's system having a fair trial, but I wish it to be distinctly understood that my opinion is that were it tried to-morrow it would prove a complete failure in the ventilation of collieries. I am called upon to make these remarks, so that there need be no misunderstanding as to what my views are upon the subject.

The latter part of the letter refers to Mr. Brough, and not to anything that I have either said or written, as, whatever Mr. Hughes's system of ventilation may be, he is perfectly right in his remarks upon the loose manner in which quantities of air are spoken of in reference to ventilating collieries; but I should think Mr. Brough will not allow so important a statement to pass without offering some explanation. JOS. GOODWIN.

## VENTILATION OF COLLIERIES.

Sir,—When a quotation is made use of it should be fairly given; withholding the major part of the sentence is a reticence that may reverse the writer's meaning. Mr. R. H. Hughes, in speaking last week about his method of ventilation, says that Mr. Brough was of opinion "that 200,000 cubic feet of air per minute would not have prevented the Risca explosion." He should have given the context, and then the statement would have been clear and easy of comprehension. Mr. Brough, in his report, makes the remark "that 200,000 cubic feet of air per minute, or quantities of even greater magnitude, would have been altogether insufficient to have saved this pit, or, *ceteris paribus*, any other colliery, from explosion, under the fearful conditions that a defective lamp and a sudden emission of inflammable gas were simultaneously found in juxtaposition." This is intelligible and reliable enough; gas may come off in such enormous quantities, and with such suddenness and violence, that if an injured lamp should happen to be present at the moment the gas would inevitably fire—even though at the same time fresh air should be passing in great abundance. It has been proved and established that gas does come off in this alarming manner, and much more frequently than is generally supposed. Mr. Hughes appears to entertain the idea that it is a normal condition that fire-damp should always be escaping, and he seems to have fixed on a certain determinate proportion of the dangerous element; for example, that for every 100,000 cubic feet of air that is made to travel through a mine there must necessarily be 5000 cubic feet of carburetted hydrogen issuing from the coal!

It may be well to acquaint that gentleman that in some fiery mines gas is not met with for weeks together; not for months sometimes; even much longer periods may elapse, and it does not make its appearance in any dangerous quantity; but, when least expected, it may suddenly pour out of the coal in overwhelming amounts. In such cases a damaged lamp would be destruction, whatever might be the intensity of the ventilation. It would be superfluous to say that these remarks are not intended to disprove the value of abundant fresh air in a coal mine; on the contrary, they are on the side of excess, and show clearly enough that the approximation to safety is in exact proportion to the quantity of the atmosphere that is introduced. Unquestionably, in the maximum degree of ventilation is found the greatest measure of safety underground. FAIR PLAY.

Aug. 13.

## HARD TAMPING, AND ACCIDENTS IN MINING.

Sir,—In reference to the subject of blasting, I wish to occupy a small space in the Journal. From 25 years' practice, it is my firm belief that, in 99 cases out of 100, where accidents occur through blasting it is owing to the undue attention of the miner, either in tamping or charging. Habit and custom harden and blind men from seeing their own danger.—1. In charging with naked powder great care should be taken to clear away all the particles of powder that may adhere to the hole, before attempting to use the tamping-bar.—2. Care should be taken in the selection of tamping stuff; good stiff clay, with sand, shale, or any other substance, not hard, binds together and confines the charge better than a harder substance.—3. Hard tamping is not required to make a hole throw its burden, if the hole has been placed with proper judgment; no hammer should be used in tamping.—4. Hard tamping often cuts the safety-fuse, and brings to life the agent of destruction.—5. Hard tamping often bruises the safety-fuse, or presses it into vughs, or joints, that are sometimes found in boring, and thus it often hangs fire—sometimes not firing at all; thus the safety-fuse and the maker get a bad name. The miner may be killed or crippled for life. I have known explosions to take place in the first, second, and third series of tamping, the hole throwing the whole of its burden, just as well as it could have done had it been hard tamped to the top, which is the common practice.—Aug. 10. W. R.

## AIR MACHINERY.

Sir,—In the Notices to Correspondents, on Aug. 3, enquiries are made as to the size and weight per fathom of air-pipes for carrying off the smoke from an end 200 fms. from shaft. I have driven much further than this, and risen 30 fms., or more, to hole to old mines, with 6-in. square wood pipes  $\frac{1}{2}$  in. thick, worked by a duck machine—that is to say, a box, or cistern, working in another box or cistern, partially filled with water, with the air-pipe reaching above the water—a contrivance that every miner is acquainted with. The timber required for this would be about  $\frac{1}{4}$  in. to the fathom, (say) cost 1s. per fathom. If the pipe were of cast-iron,  $\frac{1}{4}$  inch would be a sufficient thickness, or (say) 72 lbs. to the fathom, or 6s. per fathom. Very little power of either water or steam is required to work such a machine, and there is far less difficulty about the matter altogether than is often supposed; almost everything depends on keeping the joints tight, which requires a little care and attention. I think eventually some more extensive and efficient plans will be necessary for the ventilation of deep mines and long levels. I have heard discussions in Gwennap, 30 years ago, at the Consols and United Mines; it was then thought that a powerful fan fixed at the surface, communicating by means of pipes with all parts of the mine requiring air or cooling properties, would be best. But lately I have noticed the patent of Mr. Hughes's, for something in the shape of a gasometer, to give out (say) 1000 ft. of air to a stroke, with a main service pipe running down the shafts, and branch pipes taken from it, where it was necessary, into the levels. I do not see any difficulty in working mines, with the assistance of such a machine as this, to the depth of 500 or 1000 fms., as it would be to a mine what a gasometer is to a city, only supplying air instead of gas, and a very little power would be necessary to work it. Suppose the dome to be (say) 20 ft. diameter, with a 2-ft. stroke, or rise, it would work in water the same as the duck machine now does. The motion might be regulated to suit the requirements of the mine, and the circulation of air underground would be both regular and incessant. It appears to me that such a machine would be a great acquisition to mines, securing to the working miner healthful air and immunity from smoke, and to the shareholder increased profit from the increased health and power



of his workpeople. At any rate, I think the subject is worthy of consideration.—Aug. 9.

MATTHEW FRANCIS.

#### VOLCANIC ACTION.

SIR,—Perceiving that Mr. Mark Fryar has not given any example of the calcining product, resulting from volcanic action on an ironstone bed or seam, I beg to supply your correspondent, Mr. Evan Hopkins, with a most remarkable and splendid example of this phenomena in this locality, where the igneous product is to be seen, open to the day, at least forty feet deep, of a clean, solid seam of ironstone (of course magnetic). It is daily being worked, and the full depth of the seam not yet got at. Should your correspondent desire to see and examine this, perhaps, the most remarkable ironstone deposit in the kingdom *in situ*, I shall be happy to accompany him to the mines.—August 14.

T. A. BARNES,  
Mining Engineer, Whitby.

#### VOLCANIC ACTION.

SIR,—I am much obliged to Mr. Mark Fryar for his reply, and I shall do myself the pleasure of calling upon him on my next visit to Glasgow. I had to inspect some of the Ayrshire collieries and blackbands a short time ago, but I did not see any effects from volcanic action, although I met the usual changes resulting from the moist contact of dissimilar substances. These changes may be often observed in heaps of ferruginous substances on the surface of old mines. The raw and wet products become by degrees anhydrous, often exfoliating and blistering, and finally converted into dark oxides or red protoxides, according to the nature of the elements with which they were combined. Therefore, it does not follow that because we oxidise and melt minerals by means of fire that all natural oxides and metals must be the products of fire or volcanoes. On the contrary, we find both these and many other products forming daily in our subterranean works, in all parts of the world, by means of the natural wet process of Nature. Those operations in the crystalline rocks below are as constant as the action of the sap in the vegetable kingdom above; and it is much to be desired that those who undertake to instruct the rising generation of miners should study the works of Nature and applied science, and avoid all loose and groundless assumptions. The igneous theory is not only totally unnecessary in the industrial schools of mining, but is now all but exploded. On my return from Ireland I expect to go to Scotland. EVAN HOPKINS.

Aug. 15.

#### THE CORNISH SYSTEM OF WORKING MINES.

SIR,—I have often remarked on the ancient and very defective system of working mines in Devon and Cornwall, and am surprised that it should be permitted in the present age in poor and deep mines. Crooked shafts, with chains and kiddles to raise ore, and ladder-ways for the men to descend and ascend, may serve the purpose in shallow mines containing rich bunches of ore, but such a system in deep mines destroys the health and strength of the miners, and wastes the capital of the shareholders. Were we to adopt the same mode of hauling the stuff, and the men be permitted or compelled to climb long ladders in the iron ore, ironstone, and colliery districts the works would have to be closed as unprofitable. Cornishmen have paid a very great attention to their pumping appliances, but apparently have neglected all other and equally essential applications to render deep mines containing only ordinary class ore profitable. Consequently, Cornwall is considered half a century behind the iron and coal districts in the system of working. Iron ore, ironstone, coal, &c., are extracted and hauled from the depth of 100 to 200 fms. and upwards, and delivered at prices varying from 3s. to 4s. per ton. The products and the men are hauled up at the rate of from 100 to 150 fms. per minute. Accidents in shafts are exceedingly rare in well-regulated establishments.

The paying gold quartz mining companies in Australia are conducted principally by the Welch and the North countrymen, or men well trained in the economical system adopted in the iron and coal districts. Kibbles and barrows are avoided as unsuitable for dispatch and economy. The stuff brought from the depth of about 144 fms. at Morro Velho is only worth about 36s. per ton, yet by means of the economical method adopted there the extraction of this low quality ore leaves from 5000l. to 6000l. per month profit. Hence Cornwall is not alone behind the iron and coal districts of England, but also behind some of the mines in the interior of South America. Cornishmen as a body are doubtless equal to any other men to carry on mining works, but unfortunately they take their own system as a standard of perfection, and are very prejudiced to everything but what is adopted in their own county. Cornish miners get weak and sickly at from 30 to 40 years of age, in consequence principally of their ladder-work, which consumes more than half their strength and permanently injures their health, hence they become unserviceable for foreign mines. The North country miners are stronger, and as they are more accustomed to the system of mining adopted in the iron and coal districts they are preferred to Cornishmen. I have been induced to make these observations from reading a letter in the last Journal on Great Wheal Alfred, by "A Shareholder" (Penzance). In that letter we find the following very just remarks:—

"Instead of having the best possible means of drawing the stuff, they have one of the worst, for instead of cutting down, straightening, and making larger a small and crooked shaft, they have made it worse by cramming a double skip into it, thus causing constant breakages, &c. A great contrast when compared with some of the best plans in the North of England. They have no engine or cages for raising and lowering the men. Imagine the time daily occupied, to say nothing of the fatigue the men endure, in descending perpendicularly 250 fathoms to do their work, and reserve sufficient strength to climb to surface again." "Now, I venture to say that were the iron mines and collieries to discard their means of raising and lowering their men and raising the produce, and adopt the Cornish means, they could not render the produce for double, treble, or quadruple their present prices."

Our iron ore miners and colliers scarcely believe that such an expensive, inconvenient, and crude system of mining is still in existence in England. Occasional rich bunches of ore have been the ruin of many mines. A system should always be adopted to make the ordinary class ores pay, the rich ore can take care of itself. An ordinary labourer can make rich bunches of ore pay, but we want judgment, capacity, and economical system of working to make poor ore remunerative, be they gold, silver, copper, lead, sulphur ore, iron ore, coal, or any other products.

If the Great Wheal Alfred and other deep poor mines are to be further prosecuted, I would recommend the shareholders and the lords of such mines to place them in charge of the North countrymen, and to work them according to their method. The pumping-machinery and the dressing may be left in charge of Cornishmen. If this plan be adopted, the western part of Great Wheal Alfred and many other old mines now wrought at ruinous losses may be rendered highly remunerative, and permanently beneficial to the country.

EVAN HOPKINS.

15, Clarendon-gardens, Maida-hill, Aug. 12.

#### MR. ENNOR ON THE MINES OF PORTUGAL AND SPAIN.

SIR,—My old friend, and your valuable correspondent, Mr. Ennor, according to his account in the *Mining Journal* of last Saturday, has apparently been sadly imposed upon in his late trip to Portugal and Huelva, in Spain. The perpetual examination of the baggage night and day in travelling through Spain from north to south, from province to province, is, to my personal knowledge, very annoying. Again, to have to pay 8s. in Lisbon for a *visé* before we can embark for home is to an Englishman outrageous. Mr. Ennor, from the want of knowing the languages of these countries, and other drawbacks, has been much victimised by his guides than ordinary travellers. He states—"My passport cost me upwards of 20l. in money and loss of time." That is during three or four weeks travelling!

Those who have been sent to these countries from time to time to see mines offered to English capitalists without knowing the language, or even possessing a correct knowledge of the true character of the deposits and the rocks they had to inspect and report upon, have necessarily been much imposed upon, to the great injury of English capitalists as well as to themselves. They are placed more or less at the mercy of interested interpreters. Mr. Ennor in his communication refers to the great mistake committed by some reporters calling the sulphur deposits "flat beds of sulphurous ores." When we consider the very loose way in which opinions are frequently formed and expressed in many of these reports we need not be surprised at such mistaken ideas. Even Mr. Ennor himself, in pointing out the mistake, says that the "sulphur lodes are embedded in a beautiful white-edged rock killas," thus implying that they were beds of ore in the slate. I am not astonished at Cornish miners making such mistakes, and applying improper terms to formations with which they are not acquainted, as they seldom have the opportunity of studying well-developed laminated rocks in their own country, such as gneiss, micaeous and argillaceous schists, and the various veins of granite, quartz, porphyry, pyrites, &c., enclosed therein. The sulphur veins or bands in Wicklow are, like the Huelva sulphur ore, enclosed in argillaceous slate, having the same structure and bearing as the bounding rock. However, the Huelva masses are not so uniform in width and bearing as the Wicklow, but are much larger, and generally of a lenticular shape, bent and twisted laterally in conformity

with the planes of the lamination of the rock in which they are enclosed. The masses of ore have been formed on edge, like the laminated structure of the bounding rock, and not embedded or deposited in flat beds. The depth of these masses are unknown. The copper is found principally deposited or precipitated within the lamination of the sulphur ore as a black and blue oxide and sulphate. The character of these masses are in accordance with iron pyrites lodes—that they do not change into copper lodes in depth, but continue as iron pyrites or sulphur lodes. The bottom of the Rio Tinto ore formation, which is upwards of 100 fathoms deep, is of the same nature as it was above. Indeed, I have witnessed the unbottoming of several iron pyrites lodes of no small size at depths varying from 1000 to 1500 ft. at Marmato. Before Mr. Ennor makes another visit to Spain I would strongly recommend him to inspect the sulphur mines of Wicklow; he will learn there many things connected with sulphur lodes that cannot be acquired in Cornwall and Devon. Your correspondent, Mr. Gunther, has given the best description of the rocks and mines of Huelva of any I have read. Mr. Gunther is one of the very few who appears to understand the true character of the primary slate, and who does not confound this formation with stratified beds or deposits.

In order to ensure profitable results from sulphur ores, whether at home or abroad, they must be wrought on the same scale, and on the same economical principle, as we do in our iron ore deposits and veins. All the stuff moved in wagons from the workings to the final delivery, and at a total cost not exceeding 5s. per ton. The Cornish system of working is as inadmissible in sulphur mines as it is in our iron and coal works. I presume that they are only ascertaining the depth, width, and the value of the ore at the Lagunazo Mine before deciding on the future and profitable operations. This may possibly account for the state of things at Lagunazo represented by Mr. Ennor. I cannot believe the worthy Chairman and his colleagues would allow the capital to be wasted in merely exploring, unless the company was well prepared to carry on the works on a profitable scale. However, without railways to convey the product to the shipping ports, the operations will have to be confined to the richest and smallest portions of the masses, and if not attended to with the greatest care and economy, and managed by efficient practical men, accustomed to heavy products of low value, will frequently incur very heavy losses instead of leaving a profit, as already stated in many of my reports. EVAN HOPKINS.

Aug. 13.

#### MINING AND MINERS IN SPAIN.

SIR,—Having visited Spain several times, I naturally read the critical politico-geological letter of your valued correspondent, Mr. Nicholas Ennor, with great interest, and cordially agree with his sensible remarks relating to some features in the management and working department. In the Huelva district, however, where I examined the rocks and mineral deposits, not only at surface, but also underground (having been underground at the mines of Rio Tinto, Tharsis, St. Ilmo, St. Miguel, La Concepcion, Pena de Hierro, El Castillo, La Union, La Coronada, &c.), I did not feel justified to apply the term "lode" to most of those deposits, many of which are accompanied by a characteristic massive crystalline rock (r. porphyry), but preferred, in my description in the *Mining Journal* of 1859 (signed "Julius"), to retain the Spanish term "masa;" and presuming that Mr. N. Ennor, by "sulphur deposits," means those very deposits of the Huelva district, I should feel obliged if, for the sake of clearness, and for my own information, as well as that of others, Mr. Ennor would kindly mention those deposits in that district which unmistakably are lodes. With respect to the change in depth of those "massas," it is worthy of the most careful consideration, whether Mr. Ennor's theory (that they change into quartz and copper) be the correct one, or another which, from a multiplicity of facts, draws the conclusion that those deposits in depth will wedge out, or change into mere "impregnations," at a comparatively shallow depth: from what I have seen I incline to the latter opinion. Such a keen and practical observer as Mr. Ennor ought to give us some more of the results of his investigations in that interesting country, and I hope that he will do so.

G. J. G.

#### WHITE GUNPOWDER.

SIR,—Notices have recently appeared in several journals of an invention by M. Augendre, which consists in substituting a mixture of chlorate of potash, ferro-cyanide of potassium, and cane sugar for the ordinary gunpowder. Ten or twelve years ago I used a similar mixture for the same purpose, and only laid it aside on account of the danger attending its use for fire-arms, as it easily explodes by friction, although the notices referred to state that such is not the case. I, however, on one occasion got severely burnt with it from that cause, and beg the favour of your insertion of this as a caution for others who may wish to experiment with it. The best way to prepare it is to moisten the ingredients before grinding them together (this is better than grinding them separately and then mixing them), and then drying by a very moderate heat. I found that it answered better without the sugar, as by leaving that out and using a different proportion of the other two ingredients to that used by M. Augendre a powder is obtained that is more powerful, and leaves scarcely an atom of residue after firing.—*Bury*, Aug. 12.

A. Z.

#### NORTH WALES SLATE QUARRIES—No. VII.

SIR,—When the Yspytty and Penmachno estates belonged to the late Lord Mostyn several small trials were made for slates, the indications being such that led many to expect a fine discovery. His lordship instructed a near relative of the writer to examine a few places; and although many years have passed the writer can well remember the pleasures and the great travels of that day. In these fast-travelling days it would be but a journey of a few hours, but then it was a theme for a schoolboy's boast, of astonishing distance, and of marvellous scenery. It was summer, and the first time I had ever seen rocks inspected, and well can I remember the charm of merry birds; a golden sun with a cloudless sky; deep-laid valleys, richly garbed with flowers; pastoral hills wreathed with blossoms of many hues, and carpeted with the softest of mosses; the liquid voicing of mountain streams; the cool, soft, and balmy breezes of the upland heights; the thousand carols in the sylvan woods, mightily swollen into one harmonious anthem; with one shepherd's cot far in the wilds, half hidden in a secluded nook, a stranger to all save bleating of flocks, the bubbling of a rivulet, and the bark of watchful dogs. Such are the associations of that eventful day; but, alas, since that visit to the lovely hills and green valleys that were so charming many have gone to their long homes.

In the river between Pentrefolias and the falls of the Conway are several seams of slate of great softness and of a good colour, but too unimportant in size to prove remunerative, were they not deficient in other qualities requisite in slate. They are small in size and, in most cases, deficient in feet and backs.

HAROLD WREY.—I was instructed to examine and report upon this seam, which is of a great size, extending from the Machno Vale to the mountain side above Bryn Crag. The line of split in this is the same as that of its stratification, consequently it will not split into slates. A prospectus and reports were lately handed to me, and I find that two practical agents, from Llanberis and Penryn, have appended their names to reports, and speak of it as a "slate and slab quarry," for the making of slabs (chiefly and roofing-slates). But in the same prospectus I find that Mr. Hughes (Crafnant) reports it as a slab quarry only. Why, in the common sense and honesty, should there be an attempt to prove this to be a slate quarry? The two gentlemen alluded to may as well say it is granite or marble. I fully concur with the three reporters as to the size, position, and advantages of this place. The best part to open a quarry is decidedly at Abernornant. The seam is so great, with a plentiful supply of water, and the demand for slabs such that this may be worked to a good profit, leaving out of calculations slates, which will never be got there. The quality is well adapted for chimney-pieces, billiard-tables, &c.; and I think the present proprietors cannot do better than convert the produce of this quarry to slabs for those purposes.

PEN-BROW.—This is a trial for slates about 1½ miles from the foregoing one. A gentleman requested me to inspect this previous to his applying for a "take," which was represented to him as a place of great promise. It appears that slates and slabs have been got from this quarry, but not in sufficient quantity to pay the expenses of getting. After examining the locality and seam, I advised him not to apply for a "take," nor have anything to do with it. Since that time, I believe, no other attempts have been made, and, doubtless, slates must be more scarce ere anyone will hazard his money in such a trial.

MACHNO QUARRY.—This was recently offered for public competition. The seam here is of a great size, and few are the places that Nature has done so much for in setting slate in such an advantageous position for the extraction of blocks. I should have been glad to say that the proprietors had availed themselves of this to do the best with such a favourable position, but very contrary, indeed, is the fact. The elevation of the ground is a formidable barrier, but with a fine throw for refuse, and the backs, in nine cases out of ten, are regular. With all the available advantages, in few places is want of skill more manifestly exhibited. This quarry has several times changed hands, consequently it would be unfair to attribute the mismanagement to any one of the proprietors. It appears that the first adventurers commenced operations at the top openings, and threw a great quantity of refuse on the seam, which will have to be removed again. Judging from the appearance of the present mode of working, some of the refuse heaps are about to be removed. Another great mistake in the conducting of this quarry is the great depth of the galleries; in fact, they appear as if intentionally driven to form one great depth. Also, instead of having only one lode and there are many, which in course of time naturally lead to difficulties. The present conductor does all in his power to clear and form the quarry to regular galleries. The quality of this stone is soft, with a very dull sound; the colour is grey, with a tolerable split. The stone is better adapted for slabs than for slates, and in this few can be compared with it. If care had been taken to open this quarry on the best scale it would have been a good paying quarry; as it is, I should scarcely think that the profits are great. By clearing the lowest part, and keeping the lode sufficiently forward, it may be long brought to a more profitable condition. The monthly quantity of slates and slabs got out is great; and every effort is being made to meet the present demand. But, with all that is done here and elsewhere, the supply is far short of the enormous increasing demand. Since the commencement of these papers, I have been informed by a respectable capitalist that one slate vein already noticed has increased in bulk two-thirds of its original size, a phenomenon lately discovered by one who wishes to be employed as manager of

the same. A very gratifying discovery to be sure; and it is to be hoped that the pockets of the adventurers will not be emptied until the fact be known. CUNEO.

August 14.

#### CARN BREA, AND GREAT TREVEDDUE MINES.

SIR,—Your readers will doubtless remember some exceedingly interesting papers which appeared in the *Journal* a few months since; one of them, compiled with the assistance of Capt. Daw, furnishes valuable statistics respecting the detailed cost of the tin produced at Carn Brea Mines, and my object in referring to it now is to institute a comparison between the two mines above named, and to direct the attention of the mining world to the startling announcement in last week's *Journal*—but of which I have seen no official confirmatory account—of the discovery at Treveddieu of a rich caunter lode, said to be worth upwards of 100l. per fm. Should this report be confirmed by the manager or purser, and the lode continue rich, I do not hesitate to say that Great Treveddieu will be one of the finest mines in the world.

I will now give my reasons for this opinion, by referring to the workings at the two mines to the present time. Carn Brea tinstone, as broken from the lode, is worth (say) 20s. per ton, yielding 40 lbs. of black tin to the ton; Treveddieu, 4s. per ton, yielding only 8 lbs. to the ton; but Carn Brea lodes are from 1 to 5 ft. wide, while Treveddieu lode is 20 to 25 ft. wide, and tiny throughout. The cost of steam-power at Carn Brea, for pumping, stamping, and winding, is (say) 15,000l. a year; at Treveddieu, these figures are represented by the small sum of 150l. to 200l. a year, the whole of the works being above the water level there is no expense either for pumping or winding, and powerful water-wheel works the stamps. Then, as to candles, which at Carn Brea form a heavy item in the cost-sheets, at Treveddieu amounts to a mere trifle, the works being carried on by daylight, in an open cutting, or, rather, cavern. The saving in gunpowder at Treveddieu is almost as considerable; the lode being of such an immense size, a charge of powder will bring down ten times more rock than in the confined narrow lode at Carn Brea. Again, the great depth of Carn Brea involves an expense for wear and tear to machinery of which Treveddieu knows nothing, and occasions many other items of cost which will readily suggest themselves to mining men. A new water-stamp, with 48 heads, recently set to work at Treveddieu, will reduce 100 tons of tinstuff per day. Now, looking at these facts, so imperfectly stated from memory, and without any figure before me, if this caunter lode continue rich, I see no reason why Great Treveddieu should not stand A.1 for the production of tin, and return from 50,000 to 100,000l. worth of tin per annum.—Aug. 13.

AN OCCASIONAL CORRESPONDENT.

#### GREAT WHEAL ALFRED.

SIR,—As you were good enough to publish my last letter, I am induced to trouble you with a few more remarks, which not only concern this mine, but all deep mines.—1. I am one of those who consider that where there are two pumping-engines on a mine each one should have perfect pitwork, and each should lift their water to their adit, so as not to be in the position of this mine—that when one engine is idle both may as well be.—2. I also consider the fewer angle-bobs required the better, not only as regards a less quantity of fuel, grease, &c., being required, but also that less breakages will take place in the mine. This is the reason of the great value of a perpendicular shaft.—3. I believe that machinery may easily be brought to bear in the shafts especially, so that it shall not only be more expeditious but also considerably less expensive; indeed, I see no practical obstacle to prevent shafts being sunk 10 or 12 fms. in the time it now takes to sink 1 fm.—4. I believe that a time will come when Cornish mines will be worked with profit more than double the depth of this mine, which mines will probably not only have engines but also employ horses underground, not using the latter, perhaps, in every level, but in the main levels, which levels, it is likely, will be carried wider and higher.—5. I believe that when the time alluded to comes mining will not be so much of a speculation, but that a greater certainty will be derived from it, because it will be a science better known; when it will not be considered so much as it is now that a "good mine" is a good mine, but more in the light of the specimen of a good mine, where it is a well-known fact that a good captain will make a ship give profit, whereas a bad one will bring ruin on its owners. Now, if the time to which I have alluded ever takes place, the man who can see how to use, and does so, the appliances I have enumerated in their right place will be the man to have as manager in a deep and extensive mine.

I see, from a circular I am favoured with by Mr. Nichols, that Capt. Trelease recommends driving the 142 fm. level east, whilst the agents of the mine would recommend the 153 fm. level east, but I would rather see the 180 fm. level driven east to the cross-course, and, of course, Field's engine-shaft completed to the 180 fm. level. I have heard some people, who object to raise and lower the men by a skip, say we have no shaft to pump, but I see by the plan that the Cornish mine, yet the Cornish says, will be as deep as 150 fathoms from the surface. I perfectly agree with the remarks of "Justitia," especially as to the way of winding-up a mine, seeing that I am in a mine where I have lately been sued by a creditor, although the purser has 2000l. of our money in his hands.—*Penzance*, Aug. 13.

A LOCAL SHAREHOLDER.

#### GREAT WHEAL ALFRED—LONDON MANAGEMENT.

SIR,—I am sorry to trouble you to insert another letter from me in your valuable *Journal*, but I consider it positively necessary that I should do so in order that my co-adventurers may be fully prepared with facts for the meeting on the 20th inst., and give their votes accordingly. I shall not advert to my former letter further than this, that if Captain Trelease's report had been circulated with the statement of accounts for April, May, and June, it is probable I should not have expressed myself in such strong language respecting it. Here is a report of May 15, from a mine agent, and also there is another report from the same person who was then appointed, it appears, by Mr. James Hollow, of Lelant, one of the committee, to inspect this mine, and yet the committee says, when asked why a copy of such report was not sent to each shareholder, that the committee passed no resolution authorising such step being taken, and, therefore, it was not forwarded. Why did they not do so? The reason is obvious to any man of common sense; because Captain Trelease says, "I have never inspected this mine with the prospects so good to the west of Copper-house shaft as at this time." This report I have seen from another source, but this report would not have answered the purpose of the committee. By-the-by, I find that some of these Solons—these philanthropic gentlemen—are behind with their calls, except that one of them, kind-hearted Chancellor of the Exchequer sort of man, I have reason to believe, has given a promissory note for the amount of his back calls, to the tune of 224l. 15s. Is this the way the mine has been conducted? Is this the way the financial department is carried on? Such a mode of procedure would not be permitted if the books were kept at the account-house of the mine, and the meetings held there as formerly. I can get very little information from the secretary. He refuses to send me either a list of the shareholders or the names of those in arrears of calls. He is a paid agent of the mine, and is, therefore, bound to render it. If all Cornish mines were conducted on similar principles, nine-tenths of them would be numbered with the "bals" that are now no more. The costs of the management, and committees visiting the mine, have far exceeded any other mine of the same magnitude, either in Cornwall or Devon; the amount of such expenditure since the commencement of the mine is about 8000l. Now, Sir, I trust every adventurer will be prepared to attend the special meeting, either personally or by proxy, and put a veto on the resolution to be then submitted for stopping the mine. From my near residence to the mine, I could add a great deal more bearing on the subject of its gross mismanagement and the unnecessary expenses, but feeling perfectly convinced that the said resolution will not be carried, I drop my pen with the full determination to carry on my 105 shares, and to see the result attending the future fair and legitimate working of Great Wheal Alfred.—*Penzance*, Aug. 13.

JAMES T. KEVERN.

#### GREAT WHEAL ALFRED.

SIR,—Divesting Mr. Kevern's letter, in last week's *Journal*, of its nonsense, it appears he wishes to know—first, how the money has been spent, and second, why it is proposed to stop the mine. In the first place, a copy of the cost-book is kept on the mine, where Mr. Kevern, or any other shareholder, can, by applying to the local purser, see all the particulars he wants. As to why the mine should cease working, if he had any practical acquaintance with it, he would soon see many reasons for it, and, perhaps, few reasons *pro contra*; but I think it out of place to discuss it fully here. I may, however, observe that this mine has now been working 11 years, time enough to try any mine; calls amounting to about 72,000l. ore sold, 100,000l. total, 172,000l. spent—money enough to try any mine. Nearly all the ore comes from westward of Copper-house shaft. The dip of the run of ore is nearly flat; so much so, that between the 210 and 220 it is more like a floor of ore than a regular shoot. The 220 has not yet cut it; end still poor. Supposing it even now cut in the 220, and that it is a regular run of ore, it would take 18 months at least to overtake the same shoot in the 230, and it would be useless to think of overtaking it in the 240. Well, what then? There is no shaft westward, and to think of working it at such a depth from Copper-house shaft is utterly absurd. The only salvation for the mine is a new shaft to be sunk westward in new ground, which would take from six to eight years, and an outlay of 8000l. to 10,000l. to bring it down to the present run of ore. This would, I believe, be a good speculation, as there would be a very good chance of finding other runs of ore ground in sinking. The shaft could be carried large enough, or in two parts—the pitwork and footway in one, and the other for drawing and man-engine. Field's engine and pitwork might also be brought there. But, at the same time, who of the present company would like to look forward to such a long time, and such an outlay as this? Many may, many will not. Still, if a good party were formed to do it, I should be happy to join it. The western part of the sett is a fine run of virgin ground. Again, our drawing-power is not enough; the whim now drawing from Copper-house shaft is nearly to the extent of its power, so that a little more workings will require further outlay for machinery. As much has been done as could be to make the mine pay, yet still see the losses. If the standard has kept up, no doubt it would have paid costs lately; but who can say when the standard of ore shall remain in former figure? The tin has also lately very much fallen off in quantity. I might say much more. As to Capt. Trelease, without detracting in the least from Capt. Richards, Pope, or Treldinnick (gentlemen whom I well know and respect), I must confess that he (Capt. Trelease) was, in my opinion, one of the very best, if not the best, man we could have to inspect, looking at the years he has spent in the immediate locality, and as manager of Alfred Consols, adjoining. He was, it is true, employed by the lords to inspect for them, and I believe gave them a faithful report; and when employed to inspect for the committee, gave them also, I believe, an equally faithful report, referring to the special objects to which he was desired to make particular reference. Mr. Kevern is, however, most unfortunate in his allusions, for I had privately consulted Capt. Richards, and he quite agreed with Capt. Trelease in his opinions of driving the 142 east. I, however, did not press that, because we could do nothing, or very little, towards developing the eastern part of the mine without an engine on Falmouth shaft, and a great outlay there. Mr. Kevern knows little of practical mining, and it is not easy to convince anyone in discussing any subject of which that person is ignorant. The question of reserves is a very open one, and the quantity and quality of the ore, the way in which they may be worked away, and the cost of doing so, may most materially alter the views of those, supposing those reserves of 11,040l. to be one-half workable at 10s. in 1l., and the other half 15s. 4d. or 15s. in 1l. Has Mr. Kevern any idea of the profit after paying the enormous fixed charges here? Mr. Kevern is in error when he professes to know the value of the mine. I never expressed myself in any such manner. It is well known to those who know most about it that I have exerted myself to keep it going. It now, however, appears a hopeless task, and I do not advise it. Discussions at recent meetings, and the heavy arrears of calls, show that a great number of the shareholders are quite tired of it, and that many of the best shareholders have transferred their shares into the names of nominal persons, to be rid of the liability. How, then, can a concern of this magnitude be carried on under such circumstances? It places the few solvent ones in an awkward position. I am bound to say, however, that the merchant speculators of the mine and the lords have acted most liberally, and are willing to assist all in their efforts to save the mine. The committee are acting as they think for the best; they have lost very largely in this mine (one gentleman nearly 5000l.) and I am sure would not forsake it if they thought they could carry it on with any chances of success. The last meeting was most unanimous in determining to stop, and at previous meetings it had been much urged. If the mine stops it will, no doubt, be offered for sale by auction, and those who wish may purchase and continue the working (a fine opportunity for the exercise of Mr. Kevern's genial philanthropy—the people in the neighbourhood will bless him if he does this). The protests of two or three shareholders against the deliberative opinions and acts of the majority would, of course, be nothing. I know who the local shareholders are, and those whose opinions are worth anything I have consulted.

In conclusion, I may say that the mine has been during 10 years well and fairly tried,



but we are unable to speak of any improvement in its value since last reported on.



## ANCIENT GEOLOGY—No. VI.

THE FORMATION OF THE METALS.—Although the vegetable world, when kept underground, becomes blanched and colourless, the whole metallic kingdom is fraught with the brightest hues and most beautiful colours.

When looking at the beautiful objects found in the hollows of metallic lodes, so resplendent with chromatic rays, and comparing them with the metallic lustre found in the plumage of birds, the shading of flowers, and other brilliant objects of the organic kingdom, I have been led to ask, do not the organic and crystalline kingdom derive their hues in common from a parent origin? and I have asked philosophers if the masses of colour found in the metals might not have been eliminated in thin coatings from light and gas, such as the painting of the leaf of the rose or the feathers of the humming-bird? but I have been always answered—No. Colour is the mere effect of the arrangement of the particles on the surface of things, and there is no substance in it. I have further endeavoured to substantiate the fact that colour must be a substance, by arguing that if we took the first objects of colour since the days of creation, and massed them together, they would amount to tons in weight, no matter how light and fragile the specimens might be that we used as an example,—for instance, in the case of the egg of the peacock, these metallic hues have been continued to be drawn from light and air from generation to generation since the species began to exist, and will continue until it be exhausted, probably for thousands of years to come. Can we imagine that there is not an amount of substance in all those millions of laminae of colour? the old answer was—No. But time unravels these wonderful and difficult problems; and we now have the great German chemists Bunsen and Kirchhoff, represented in our English school by Professor Roscoe, demonstrating that metal exists in the solar spectrum; that as potassium imparts a violet colour to flame, lithium crimson, soda yellow, and barium green, when they are volatilised, so do the chromatic rays of the sun when analysed yield metals. For example, the yellow ray of the sun contains soda, and that the metal sodium exists in body or substance in this ray of the sun. We, therefore, have no further difficulty in imagining how the primrose and all the host of flowers of that hue are painted, because we have demonstrated that in the rays of the sun the basis of that colour exists in the shape of sodium; and so with other colours; they are not only substances, or substantial things, but really metallic substances. All who have worked underground, and have had to try the presence of copper, which often exists in the shape of a rich black oxide, very profitable to the tributer, will be aware how that rude chemist moistens the sooty substance and applies it to the flame of his candle, and how satisfied he is, if the green flame appears, that the true metal exists in his ore, and that he is not deceived by the black oxide of iron, and other more worthless substances. Few, when engaged in this method of analysis, imagined that they long ago were taking the very same method to test the presence of the metal that the great German chemists have recently taken to test the presence of metals, not only existing in the sun's rays, but in every other part and form of created matter connected with the solar system. Nor is there any doubt as to the truth of the assay of the quantity of metal in the sun's light, since M. Bunsen was able to detect the 180,000,000th part of a grain of soda when volatilised in a room, obtaining by this delicate method the prismatic test in less than a minute, of what could only be done by hours of laborious work by the humid process; and what is true with reference to the metal volatilised artificially is equally true with reference to its existence in the sun's ray in its natural state. Well, the reader may say, what has all this to do with the formation of metallic veins? If we go into the veins of metal hundreds of fathoms below the level of the sea, and we break out a lump of ore, no matter what, whether it be tin, copper, lead, gold, silver, or iron, we find it is nothing else but a mass of faces of the most beautiful colours; in frequent instances by the light of the candles you see in the grottoes of the lodes a fairy-like arrangement of chromatic glories, only to be produced on the surface of the earth by the use of the kaleidoscope. The veins or lodes of metal, from wall to wall, are made of crystallised laminated coats of beautiful colour; and, in fact, the whole of the interior of the crust of the earth, instead of darkness, is a wondrous mass of light and colour.

Professor Hunt has told us, in eloquent terms, how the sun's light, hoarded in the timber of the tree, after lying for thousands of years deep in the crust of the earth, in the form of coals, has been brought to the surface to give us back the sunlight in the shape of gas, and that the same light that lightens our streets and drawing-rooms at night was thousands of years ago carefully hoarded for us by a process of Nature as marvellous as it is benevolent. There is no doubt that the sun's light and its metals have extended to the foundations of the earth, distributing riches through the whole fabric of the globe; and although we cannot say exactly how the metals have been crystallised on the walls of the lodes any more than we can how the layers of timber have been arranged to form the tree or the films of lime on the central cylinder of the bone, yet we do not greatly stretch analogy by concluding that the vermilion of mercury, the green of copper, the yellow of sodium, the red of lithium, the violet of potassium, together with all the beautiful colours of the rainbow, have been beneficently stored for us, time out of mind, in the partitions of the lowest rocks, by a process somewhat akin to that described as connected with light in coal by Professor Hunt. We must not forget that the aggregation of metal by the slow process of crystallisation has not been the produce of a day but the accumulation of ages, and that in the apparently dark laboratories of Nature there are actively at work, in the fruitifying media of water, &c., the powers of electricity and different gases. Mr. Cross produced quartz, years since, by electricity acting upon water alone; but when we take into consideration the new fact that light is fraught with metal, it is not difficult to conceive that the power of collecting these elements would naturally result in wonderful arrangements of metallic riches, and even, *a priori*, we might have conceived some notion of the grandeur and pagentry that would be assumed by the mineral kingdom; but no person judging of such designs by our own inefficient strength and evanescent day, could imagine that such prodigality of creative power could be accomplished; no description can give any idea of its splendours; these glorious works must be viewed and studied attentively underground before any correct notion can be formed of their extent and magnificence. With such study a feeling as to the possibility, and even as to the mode of the operations of their existence, enters into the mind. The history of the earth, as displayed in the metalliferous and fossil kingdom, reared up in the different stages of stratification of its crust, affords a grander view of creation, and one higher to contemplate, than anything on the surface of the planet, except the history of man himself.

IMPROVEMENTS IN SEWING MACHINES.—Mr. Walter Hart, of Norwich, has just patented (per Mr. Camplin, the patent agent) his patent for improvements in sewing machines. The mechanism for working the needle is so arranged that it is transverse to the mechanism for actuating the shuttle (or its equivalent), whereby the shuttle-box is caused to project, as on an arm or bracket, which may be brought through the open part of such work as sleeves, boots or shoes partly made up, tubular articles, and the like; although when other work is to be done a wooden table of the ordinary character may be used, extending from the arm or bracket to the other part of the bed or table of the machine, so as to form a more extended surface for the flatter work. The specification further states—"To render my invention better understood by the practical man, I will now proceed to describe the changes I make in constructing sewing machines, taking Thomas's sewing machine, now in public use, as the example. I have a fly-wheel or balance, as in Thomas's machine, but of two-thirds less diameter, and carrying the camb for propelling the needle-shaft or lever; and this camb in my arrangements works the said needle-shaft or lever, as in Thomas's said machine, the whole arrangements for actuating the needle being the same as in that machine. But my machine also differs from Thomas's, inasmuch as the axis or spindle of my machine is produced to some length (say 9 in.), underneath the bed or table, which is in width in the widest part, say, 12 in., the bearings for said spindle being pendant from the underside of said table or bed. This spindle carries a camb, or double camb, of a peculiar form, being in form nearly circular, save where a portion is cut away, where it is bevelled off, the object being to actuate the end of stitch-mover in the same way that the particular camb arrangements in the ordinary Thomas's machines do; a camb actuates the pressure-lever in a similar manner. At the end of the said spindle is a vertical pulley, which can be used to drive the machine by band or strap, by treadle action, or by other power arrangement. This pulley, which is 2 in. in diameter, forms an eccentric or crank-wheel, having a pin eccentrically placed, say,  $\frac{3}{4}$  in. from the centre, which forms a turning point to the end of connecting-lever, placed at right angles, or nearly so, to the axis or spindle of the fly-wheel or balance first mentioned, the length of connecting-lever being, say, 11 in., and of suitable thickness and breadth, and the other end of this connecting-lever being secured free to move to a crank horizontally placed. This crank being a kind of bell-crank, having two arms, with a thick boss between, one arm, that to which the end of said connecting-lever is secured as aforesaid, being 2 in. in length, and of suitable breadth and thickness; and the other arm, which is much closer to the underside of the table, having between the said boss, which is, say, 1 in. in length or height, and of proportionate diameter, the said last-mentioned arm being, say, 4 in. in length, and of suitable breadth and thickness; the said crank or bell-crank being secured free to move by means of a belt or axis passing through the said boss, and secured into a bearing-piece on the underside of the table or bed. The free end of the crank last mentioned has a slot cut to receive a swivel on the end of a lever, the other end of which is in a groove or slot in the shuttle-box, being fixed on an arm or bracket, which issues from the table, being parallel to the spindle first mentioned, and transverse to the needle, pressure-lever, and stitch-mover hereinbefore alluded to. Hence upon motion being given by the handle or fly-wheel, or from the pulley-wheel, the needle-work, such as sleeves, tubular articles, and the like may be made upon the said bracket without difficulty. The arrangement of the transverse arm and its adjuncts are claimed.

## Mining Correspondence.

## BRITISH MINES.

ABERDEEN.—A. Ede: The men in the engine-shaft have been delayed for two or three days, in consequence of some heavy floods, but there is every appearance of a favourable change in the ground in the cross-cut. The men in the slope in the back of the 32, north of winze, on main lode, have been putting in a stall, so there is no change to notice. The slope south of winze is improved, and producing  $1\frac{1}{4}$  ton of ore per fm. I have set six men to drive on the south part of the lode at the 12, at 31. per fathom. In stopping here we find the lode to be very kindly, and likely for improvement. It is at present producing about 5 cwt. of lead ore per fm. The machinery is working satisfactorily, and all other surface works are going on well.

ALFRED CONSOLS.—S. Uren, T. Hosking, Aug. 14: The main lode in the 160, driving east of Davey's engine-shaft, is 4 feet wide, spotted with ore. This lode in the 150, driving east of the above shaft, is 4 feet wide, producing good stones of ore, but not to value. We have commenced a rise over the back of the 140 on this lode close to the present end. The north part of the main lode, driving east of Roberts's stop, at this level, is  $2\frac{1}{2}$  feet wide, worth 127. per fathom. The 130, driving east of the above shaft, is 5 feet wide, worth 61. per fm. The 120 end east has improved in the past week by a branch from the north falling in with the lode; it is now 2 feet wide, worth 71. per fm. We have intercepted a branch in the 140 cross-cut north, 18 inches wide, worth 61. per fathom. No. 1 winze, in the bottom of the 140, on the north part of the main lode, is worth 352. per fathom for the length of the winze, 2 feet. Roberts's stop is worth 201. per fathom. Hosking's stop is worth 101. per fathom. Floyd's stop is worth 301. per fathom. Richards's stop is worth 107. per fathom.

ALTY-CRIB.—J. Hughes, Aug. 10: The stopes in back of the shallow adit are nearly worked out; we have worked up to the old men's workings, so we cannot expect much more here. We mean to put the men to sink a winze from the bottom down to No. 2 adit, where the ore is coming in very good.—No. 2 Adit: This end we have driven for the last 4 fms. through stopping ground, and holding on as yet. The stopes by the winze in back of this level is opening very well so far, producing 7 or 8 cwt. of ore per fathom. In No. 3 adit the lode is about 2 ft. wide, intermixed with carbonate of lime and spar, and looking very promising. In the deep adit, driving west, the lode is wider than the breast, and letting out a great deal of water; there are some small spots of lead at times, but not worth speaking of.

ANGARRACK CONSOLS.—J. Barratt, Aug. 13: The 24 south cross-cut is advanced 73 fathoms 3 feet 6 inches from Cox's engine-shaft; the end is at present rather spare for progress, and the ground, which is discharging much water, contains small branches of quartz, with muddle, and spotted with yellow copper ore. It is a very congenial rock for mineral, and the indications are such as to warrant a belief that there is a lode near the end.

BEFORD CONSOLS.—Capt. Mitchell, Aug. 15: In the middle adit level the north lode is about 20 inches wide, composed of spar, muddle, white iron, fockan, and spots of copper ore—a kindly lode. There has been no lode taken down in the end on the No. 1 south lode for the month. The ground in the cross-cut south is still of a congenial character for mineral. There is no change in the tribute pitches to notice since last report.

BORRODALE.—W. Dixon, Aug. 15: The working on Charlton's stage, where we are rising on waddy pipe, has since my last report improved in appearance for waddy; the pipe is from 3 to 4 ft. wide, and composed of globular pieces of quartz and decomposed waddy, with some first quality waddy. The working on Rhoyd's stage has no alteration since my last report. We have obtained from Grand pipe this week some quality black-lead, less cost. The 30, on Thomas's lode, is set to drive by four men, at 107. per fm.; it will greatly facilitate the operations in this part of the mine, and drain 10 fms. of new ground on Thomas's lode. The 30, on the Red lode, is driven east of the Redwark shaft 5 fms. 5 ft., and is being driven with all speed to intersect and drain the carbons known in my former reports as the discovery in the 20, on the Red lode; it is set to six men, at 121. per fathom; lode 3 ft. wide, producing good tinstuff. In the 20 the winze on the carbons has been sunk 6 $\frac{1}{2}$  fms. At this depth the course of tin is becoming much larger; the men have driven through the carbons about 7 ft. north, but see no sign of getting to the end of it. It yields a great quantity of water, which is an indication of its being a large deposit. When intersected by the 30 it will enable us to increase our returns of tin at less cost. The 30, on Thomas's lode, is set to drive by four men, at 107. per fm.; lode 10 in. wide, worth 151. per fathom, and is, in 11. tribute; ground improving. Wheel Mathew shaft is being cleared by eight men, and is now cleared and secured 8 fathoms below the 30; we hope to clear and secure to the 40 this month, at the end of which time I expect to be able to state something good concerning this part of the mine. The Giffin's shaft is clear and secured to the adit level. The adit is cleared 30 fms. west, 3 fms. east, and a cross-cut 10 fms. north, where we discovered a lode, but have not sufficient time to prove its value. The tribute department continues much the same.

BRONFLOYD.—J. Lester, Aug. 15: The cross-cut, 13 fms. below adit, is still on the north, and no signs as yet of the wall of the lode; at present it is proved 4 fms. wide, and carries small branches of lead ore. Thompson's cross-cut is extended  $\frac{1}{2}$  fathoms towards the south lode. I hope that in another month we shall intersect it, for when done I have every reason to believe it will be found to be productive. The rise and winze on the north lode, from the 17, continues to yield fair quantities of lead ore. We have begun to get out the tribute ore accumulated as a footing under the great stopes; this will take us a week or ten days, but you must know we are working the mine more with a view of proving the north and south lode than to make returns before the ground is properly opened to break the ore cheaply.

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Santa Rosalia Mine: In the cross-cut driving south towards the main lode 6 $\frac{1}{2}$  varas have been driven, by six men, at 87 $\frac{1}{2}$  per vara. The ground here has been a little harder than usual. The old adit level has been cleared and secured a further distance of 17 $\frac{1}{2}$  varas, by an Englishman and two natives, but no whole ground visible yet, although we are given to suppose that the end of the old workings is not far off. The ore rated and dressed in the month of June amounted to 56 $\frac{1}{2}$  tons, containing, per assay, 12,500 ozs. of silver, or an average of 221 ozs. per ton.

July 6: At the reduction-works 108 tons of ore were amalgamated in the barrels, and produced 14 bars of silver, worth about \$11,000. Since the end of June five more bars had been produced, making together nineteen bars, weighing 1584 marcs, worth upwards of \$16,500, which would be sent to San Miguel about July 15. The steam-engine is working well. The mine of San Pantalon is completely drained of water, and Comarba shaft is being sunk, and the lode in it looking well. All the stopes are yielding fair quantities of ore: 53 bags (3 $\frac{1}{2}$  tons) are ready to dispatch to the coast, and about 15 tons to pack in store. Directly the severe rains abate mules will be started with all this ore.—N.B. The above-mentioned ore is in addition to 333 bags (about 22 tons), which have arrived at Southampton by the packet.

WEST CANADA.—Capt. Plummer, July 22: Huron Bay Copper Mine: Since we last wrote we have continued the sinking of the new shaft, and have made pretty fair progress. The lode is wide, and yields from 3 to 4 tons per fm. The lode in the level going west of this continues to yield about 3 tons per fathom. The lode in this direction is, to my view, undergoing a change; it does not present the same features, and is not of the same composition as the lode is further east on the same location. It contains a great deal more iron and muddle than I have seen in the lode elsewhere. We are, as you are aware, approaching the limestone, and, doubtless, this is changing the character of the lode, but whether it will destroy its (the lode's) productiveness it is impossible to determine. The lode in the level east continues to be very productive, and so is the lode to the west of Palmer's shaft, coming towards the last-named point. The stopes to the east and west of Palmer's are yielding much the same as usual (about 3 tons per fathom). The lode in the level going east of Palmer's (Fire lode) is looking favorable, and yielding 2 $\frac{1}{2}$  to 3 tons per fm. We are making good progress in sinking Bray's shaft, and the lode has somewhat improved. The stopes to the west of



produce 3 ewes, or 1000 per annum



**NORTH WHEEL ROBERT.**—W. Golden, Aug. 15: We have taken down the tin lode at the 30, west of the trial shaft; the lode in the end is not so productive, but still yields good work, and likely to turn out well. The lode in the 20, east of Fall's cross-cut, is worth 3 tons per fm., and east 2 tons per fm. All other parts of the mine are much the same.

**NORTH WHEAT.**—T. Kemp, Aug. 15: The new shaft is down 5 fms. below the 20, in ground favourable for sinking, but the lode in the shaft causes a great increase of water, giving about twenty barrels to draw in six hours. The lode in the present bottom of the shaft is fully 2 feet wide, composed of the same conglomerate matrix as before stated. The lode in the cross-cut from the 35 keeps its size and character; we have driven on its course 15 feet, and are pushing on as fast as possible, as its opening will release the water in the shaft as soon as we get a little further in; the lode is 4 feet wide, composed of strong capel, spar, white granite, iron, and very rich gossan, and this gossan is still spotted with malleable and grey copper. It is a splendid looking lode, and there is not the least doubt but that this fine gossan will lead to great deposits of copper ore as soon as we get further away from the north and south lode. The masons have nearly completed the bob-pit at the new shaft.

**OKEL TOR.**—W. B. Colton, Aug. 15: In the 80 east the lode is yielding 4 tons of ore to the fathom. In the pitch in back of this level the lode is looking very well. The lode in the 100 east the lode is 15 looking very well, and yielding 7 tons of ore to the fathom. In the 50 east the lode is 12 ft. wide, and yielding 3 tons of ore to the fathom, with every appearance of its improving. The lode in back of the 50 will yield about 4 tons of ore to the fathom, and in the bottom of the 50 the lode will yield about 9 tons of ore to the fathom.

**PANT-Y-FYDEW.**—R. Nankivell, Aug. 15: In the 54, west of whim-shaft, we have cleared and secured the level, and have commenced to drive. The end is 17 yards from the shaft. The whole of the ground above the back of this level is worked away from the shaft to within 2 yards of the end. The lode in the end is composed of spar, carbonate of lime, and spots of lead ore, but is rather small at present. I think it will soon open out larger, and there is water issuing from the top of the shaft.

**PEDN-AN-DREA.**—W. Trower, T. Delbridge, Aug. 10: The engine-shaft is sinking as fast as possible, by twelve men, lode large and promising, but at present poor. In the 110 east the lode is coarse; we have about 10 fms. further to drive to reach the tin ground in bottom of the 100, to which point this end will be pushed forward as fast as possible. The 100 east is yielding occasional stones of tin. In the slope east and west of winze, in bottom of the 100 east, the lode is 10 ft. wide, worth 50¢ per fm.; we are now getting down towards the better tin ground sunk through in the winze. The lode in the 90 rise is 4 ft. wide, worth 20¢ per fm. The 90 west, on Skimmer's lode, is worth 5¢ per fm.—Cobbler's: The sinking here has been suspended until some of the men now necessarily employed about the adit &c., finish the work there. Street and Bragg's: The adit east of the lode is promising, and now approaching the run of tin ground gone down in bottom of the 40; we expect an improvement. The 40 east is worth 8¢ per fm.

**PENDEEN CONSOLS.**—W. Eddy, J. Warren, Aug. 10: In the 130 north the lode is 2½ ft. wide, but poor. In the 118 north the lode is much the same as last reported. The 118 south is not driven far enough to reach the run of tin gone down in bottom of the 106. The 106 south is still opening up good tin ground. In other parts of the mine we see no alteration to notice.

**RHEDOL.**—Thurragus Engine-shaft: In the 12 fm. level cross-cut, driving north, the ground is more favourable for driving than last reported; the end letting out water. In the deep adit level driving west the lode is 18 in. wide, composed of spar, sulphur and kila; the ground is easy for driving.

**RHEDEN.**—R. Nines, Aug. 15: The lode in the bottom of the 62, west of Gilbert's shaft, continues much as usual, yielding some good copper and lead ore. We are getting on as fast as we can with the dressing, and the works throughout are going on well.

**ROSEWALL HILL AND RANSOM UNITED.**—E. Thomas, Aug. 14: The lode in the 110, west of Troan, is now 4 ft. wide, worth about 30¢ per fathom. The lode in the winze sinking below the 100, west of Troan, is now worth about 10¢ per fm.; here we are daily expecting an improvement. The other parts of the mine are without change.

**ROSEWALL UNITED.**—E. Carthew, Aug. 15: In the 90 west the lode is 3 ft. wide, worth 20¢ per fm. In the 80, east of Jennings's shaft, the lode is 3 ft. wide, producing stones of ore. In the 80, west of footway shaft, the lode is 2½ ft. wide, producing a little ore. In the 74, at Richard's shaft, we are driving south to cut the lode. In the 58, west of Richard's shaft, the lode is 3 ft. wide, containing good stones of copper ore. In the winze sinking below the 46, west of Richard's shaft, the lode is 3 ft. wide, producing a little ore. In the 46, east of Lane's shaft, the lode is 2 ft. wide, yielding a little ore. In the 34, west of Rush shaft, we are driving to cut the north part of the lode. In the 34, east of Lane's shaft, the lode is 3 ft. wide, worth 2¢ per fm. In the 34, east of Lane's shaft, the lode is 3 ft. wide, producing good stones of copper ore.

**SCORRIER CONSOLS.**—J. W. Chase, T. White, Aug. 14: The ground in the engine-shaft is little easier for sinking, and the water much less than we anticipated. The No. 2 lode in the 18, driving east of shaft, is 4 feet wide, composed of chlorite and capel, with a very promising appearance, and producing good work for tin, and will no doubt when fairly opened yield large quantities of minerals. We are making good progress with our surface work; also with the clearing of the adit. No other change since the last report.

**SILVER BANK.**—A. Francis, Aug. 9: I was yesterday over the surface and underground at this mine, with John Morgan. I found the veins at the surface large, and where they were left unworked well filled with gossan, spar, lead ore, and blende, and presenting every appearance of their becoming very productive at a small or shallow depth from surface. In going through the adit driven by the late Mr. Daniel, I found that he had worked the lode at different points, and had extracted a considerable quantity of lead ore, all of which was done without the aid of machinery, and must have been very rich to have been raised and made marketable for the price named. The old workings, under the adit at the Blue shaft, seem to have been the richest deposit; and I am informed by good authority, when they were overpowered by water, by means of drawing it with barrels, an excellent course of lead ore was left. The driving your adit westward has entered into a good ore lode; and, as the old Roman works are considerably in advance of your progress, there is every reason to suppose you will pass through a good course of lead ore for a great length, by extending your level in this direction. There is a cross-cut which has passed the Foxpath lode for some fathoms, and this I would recommend should be driven under the south lode at some time, when you have means on the spot for returning your ore, or rather making it marketable. I found an excellent stope over the adit level at Blue shaft, and I am convinced you will find hundreds of fathoms of ground in this place to work away at good profits to the proprietors.

**SORTIDGE CONSOLS.**—J. Richards, Aug. 15: Hiltchins Engine-shaft: In the 62 west the lode is 2 feet wide, and consists of munda, peach, and quartz, with occasional stones of ore. In Colman's rise, in the back of the 50, on the north part of the lode, the rise is by the No. 1, and where it is taken down is worth 1 ton of ore per fathom. In the 50 east, west of Crew's cross-cut, the drive is turned south in search of the lode, supposed to be thrown in that direction by a cross-course. In Mayne's rise, in the back of the 50, east of Crew's cross-cut, on the south part of the main lode, the lode at present is small, 1 ft. wide, and yields stones of ore only; it is, however, promising, and will again there is no doubt soon improve. In the 40 east, and east of Head's rise, on the south part of the main lode, the lode is worth 3 tons of ore, or 30¢ per fathom. In the 50 east, west of Mayne's cross-cut, on No. 2 south lode, the lode is small (6 inches wide) and unproductive. In the 20 west, and west of Arthur's cross-cut, the lode is not so good, it is 18 in. wide, and yields good stones of ore. In Lawry's rise, in the back of the 50 east, on No. 2 south lode, the lode is worth 1 ton of ore per fathom. In Blanchard's stope, in bottom of the 40, the lode is worth 1 ton of ore per fathom. In Rowe's stope, in the back of the 40, on No. 2 south lode, the lode is worth 2 tons of ore per fathom.

**SOUTH CARADON WHEEL HOOPER.**—W. C. Cook, Aug. 10: The engine-shaft is without any alteration to notice since last report. In the 62 west, and also the winze below the 47, the lode has the appearance of increasing in size, and is spotted with copper ore. In the 47 north we have passed through several small branches a few inches apart, containing munda, and letting out water; the ground is highly mineralised.

**SOUTH CARN BREA.**—T. Glanville, Aug. 10: Tatwork Setting: The new shaft to sink by twelve men, at 35¢ per fm. The rise in back of the 38 cross-cut, by four men, at 17¢ per fm. The lode in back of the 68, west of the shaft, is worth 8¢ per fm. The winze to sink below the 68, east of the shaft, by four men, at 10¢ per fm. The 30 to drive west, by four men, at 8¢ per fm. The 20 fm. level cross-cut to drive north to the lode, by two men, at 6¢ per fm.

**SOUTH CONDURROW.**—W. Richards, Aug. 12: The engine-shaft is now down to the 40 fm. level; we have commenced to drive east and west on the lode; the lode in the end west is very much improved for the last 6 ft. driving, composed of spar, flokan, and stones of rich malleable copper. I have had two samples of ore assayed; one will produce 50, and the other 10½ per cent. No change in any other part of the mine.

**SOUTH CREWEN.**—E. Chegwain, Aug. 14: In the flat-roof shaft, sinking below the 105, the lode is 1½ ft. wide, producing stones of copper ore, and ground is considerably for sinking. No lode taken down in the 105 east for the week. Our tribute pitches are not looking so well.—South Mine: In the 51, driving east of cross-cut, on new south lode, the lode is 2 ft. wide, producing stones of tin. In the 51, west of cross-cut, on new south lode, the lode is 3 ft. wide, producing good stones of tin and spots of copper ore.

**SOUTH DOLCOATH AND CARNARTHEN CONSOLS.**—Wm. Roberts, Aug. 14: In the 50 cross-cut north there is no alteration to notice. In the adit east, on the canter, the lode is small and unproductive. The stope in back of the adit produces good ore. 9 fms. 3 feet below the 70. The lode in the present bottom is 4 feet wide, composed of copper, clay-slate, capel, lime, and lead ore, yielding for copper and lead ore from 14 to 16 cwt. per fm.; and, judging from the strong appearance of the lode at the point, we hope for good results in the next level. The lode in the 70 end east is 6 feet wide, yielding 12 cwt. of lead ore per fm. The lode in the stope in the back of the 70, east of the shaft, is yielding full 12 cwt. of lead ore per fathom. The lode in the 60 east is 3 feet wide, worth from 10 to 12 cwt. of lead ore per fm. All the other places continue much the same as when last reported. All the machinery is working well.

**SOUTH WHEEL BETSY.**—Wm. Hancock, Aug. 13: During the past month the cross-cut, south of Ley's shaft, has been driven 2 fms. 1 ft. 6 in.; ground therein composed of capels and flints of spar, and the branch as last reported; set to six men, at 12¢ per fm., stented 2 fms. The north cross-cut has been driven 1 fm. 5 ft. 6 in.; ground therein composed of capels, and the branch as last reported; set to six men, at 14¢ per fathom, stented 2 fathoms.

**ST. DAY UNITED.**—E. Ralph, J. Cook, C. Oates, Aug. 10: At Bliscoe Pool engine-shaft, sinking below the 153, the lode is 1 ft. wide, unproductive. In the 155 end, west of shaft, the lode is 3 ft. wide, and worth 6¢ per fm., with a very kindly appearance. The lode in the 154, west of shaft, is 1 ft. wide, and worth 70¢ per fathom. We intend to sink about 4 ft. more for fork; when that is done we shall at once commence to drive east and west on a good course of tin. In the 154 end, east of shaft, the lode is 3 ft. wide, and worth 15¢ per fm. In the 154 end west the lode is 2 ft. wide, and producing saving work for tin. In the 154 end west the lode is 154, west of shaft, the lode is 5 ft. wide, and worth 20¢ per fm. The winze sinking below the 154, east of shaft, is suspended, in consequence of being down to the water level; the lode is worth 50¢ per fm. The stope in the back of the 154, east of shaft, is worth 20¢ per fm. The two stopes in the back of the 154, west of shaft, are worth 50¢ per fm. In Bawden's winze, in the bottom of the 144, west of shaft, the lode is 3 ft. wide, and worth 10¢ per fm. In the winze sinking below the 144, east of Trussell's south shaft, the lode is 3 ft. wide, worth 25¢ per fm. The two stopes in the back of the 144, west of Billings's, are worth 25¢ per fm. In the 154 end, east of shaft, the lode is 4 ft. wide, and worth 10¢ per fm. In the 114 end, west of Trussell's south shaft, the lode is large, and producing saving work for tin. In the 114 end, west of Trussell's south shaft, the lode is 2 feet wide, and worth 10¢ per fm.—Wheel Unity: In the 114 end, west of Davies's, on the old lode, the lode is 5 ft. wide, and producing good stones of ore. The winze sinking below the 114, lode since last reported on. We have five pairs of men engaged at Ople's engine-shaft, and intend to push it on with all possible dispatch. The greatest part of the stones for stents of the engine-hooves are not yet cleared out, as we have to sink deeper than we first stented. The machinery throughout these mines is working very well.

**ST. IVES WHEEL ALBERT.**—H. Taylor, Aug. 15: Boderick's Lode: The 20, east of Louisa shaft, is about 6 in. wide, and worth 3¢ per fathom.—Giesler's Lode: The 20, east of the 60, west of Giesler's shaft, is about 2 feet wide, and worth 8¢ per fathom. The lode in the stope in back of the 60 west is 2 feet wide, and worth 8¢ per fathom. The lode in the 60, east of Giesler's, stope in the bottom, is worth at present 10¢ per fm. No change in any other point of operation to notice since my last.

**TAMAR SILVER-LEAD.**—T. Foot, Aug. 13: Having communicated the winze in the 226 to the 237, we have removed the shaftmen to make preparations for sinking the engine-shaft under the 237 shaft; the lode in the end at present is divided; the branch on the western wall is 9 in. wide, and will produce 5 cwt. of lead per fm., and from appearances we anticipate in about 6 ft. driving the lode will become united, when it may be fully expected to be more productive. There has been no lode taken down in the 226 and 215 since my last report. The three stopes in back of the 226 will yield as follows:—No. 1, 7 cwt.; No. 2, 10 cwt.; and No. 3, 11 cwt. of lead ore per fathom. The stope in the back of the 215, four in number, produce respectively 9, 10, 12, and 13 cwt. of lead per fm. The three stopes in the back of the 205 will produce on an average 6 cwt. of lead each per fm.

**TEES SIDE.**—R. Bray, Aug. 9: This week the men in cutting down the east end of Providence engine-shaft, over the vugh we cut in bottom of shaft, have come to some very nice ore in taking the Sun vein down, east towards the junction. The lode is of a very promising character, 20 in. wide, of which 8 in. is solid lead ore; and it appears that it will greatly improve going in the hazel sill, below their present bottom of the shaft. To prove what we have cut, I shall send to-morrow morning to Alston station, to go off with the train for London, a specimen of the lode as broken, which I hope you will receive all right. It is a fine stone of ore, and when you see this you will say there must be a good bunch of ore in the junction of the two veins or lodes. The limestone that we have sunk through is about 12 feet thick, very hard; and this hazel that we have now to sink through has every appearance at present of being more productive for ore than the limestone has been. There is no doubt on my mind, after the shaft is down the 10 fathoms, and we meet with soft ground to drive in and to work the roof away in the heading, that the ore will be taken away to a good profit to the shareholders. This is the best discovery that I have seen in the mine. I may say that we have ore standing in the east end of the shaft 6 fathoms high, worth more than 2 tons per fathom.

**TOLCANE.**—Aug. 14: Field's Lode: The lode in Field's shaft, sinking below the 30, is yielding 3 tons of good ore per fm. 6 in. length of the shaft (12 ft.), a beautiful lode. In the 30, east of shaft, the lode is yielding 1½ ton of ore per fathom, and in the 30 west 1 ton per fm. In the 20 east the lode is 18 in. wide, composed of gossan, spar, and good stones of ore. In the 20 east the lode is 18 in. wide, composed of gossan, spar, and flokan, and letting out more water than usual. The lode in the winze sinking in the bottom of the 10 west is small and unproductive. In the 10 east the lode is yielding ¼ ton of ore per fm. The lode in the adit, east of shaft, is 2 feet wide, composed of gossan, spar, and good stones of black and grey ore, and looking more kindly than for some time past.—King's Lode: The ground in the rise over the back of the adit, east of cross-cut, against King's shaft, is harder, and the air bad.—Euthoven's lode: In stripping down the north side of the western level at the adit the lode is worth for tin about 20¢ per fathom; and the stope over the back of the adit level is worth 12¢ per fm. for tin.

**TREPULACK.**—T. Hodge, Aug. 14: In the 44, west of engine-shaft, and west of the cross-course, we have driven north about 14 ft., but no lode has yet been met with. In the 44 fm. level cross-cut, north of engine-shaft, the ground is a little more spare for driving, nothing yet out worthy of notice.—North Lode: In the 36 west the lode is about 9 in. wide, producing occasionally stones of tin. In the 36 east, and east of the cross-course, we have driven south about 8 ft., and no lode has yet been met with. The 36 fm. level cross-cut is driven south towards the canter lode about 7 fms. in ground moderate for driving. In the 16, west of canter lode, the lode is 1 ft. wide, composed of soft spar, munda, and spots of copper ore, a very kindly lode.

**TREGARDOCK.**—Capt. Goldsworthy, Aug. 15: In the eastern ground the men are driving east and west on a small branch of lead, which is turning out good work. In the old mine the tributaries are doing well.

**TRELOWETH.**—T. Richards, Aug. 10: In the engine-shaft, sinking below the 134, the lode is worth 12¢ per fm. In the 124, driving east of engine-shaft, the lode is worth 10¢ per fm. In the 124, driving east of engine-shaft, the lode contains stones of copper ore. In the sump-winze sinking below the 124 east, the lode is worth 35¢ per fm. In the winze, sinking below the 20, the lode is worth 25¢ per fm. In the 100, east of Giesler's engine-shaft, the lode is worth 3¢ per fathom. In the 90, east of the engine-shaft, the lode is worth 3¢ 10s. per fathom. In the 80, east of the engine-shaft, the lode is 2 ft. wide, of kindly character. In the 80, west of the engine-shaft, the lode is worth 2¢ 10s. per fathom. In the 60 fm. level cross-cut north and south, east of the engine-shaft, no change to notice. In the 40, east of the engine-shaft, the lode is worth 2¢ per fathom. In the 30, east of the engine-shaft, the lode is worth 1¢ 10s. per fm. At Hollow's shaft, sinking below the 10, the lode is unproductive. At Mitchell's flat-roof shaft, sinking below the 20, the lode is worth 4¢ per fm. In the 20, east of the flat-roof shaft, the lode is worth 4¢ per fm.

**TREVOOR.**—H. Stephens, J. Lean, Aug. 15: The 60, driving east of Stephens's shaft, is worth 15¢ per fm. The 50, driving east of the shaft, is worth 18¢ to 20¢ per fathom for copper and lead. The winze sinking below the 40, to ventilate the 50, is worth 8¢ per fm., and improving. There is no change to notice in any other part of the mine since last report.

**TREWEATHA.**—Aug. 13: The ground in the 30 cross-cut, driving west, is somewhat harder and very wet, and not quite so good for progress as when last reported on, now in 2 fms. 5 ft. The lode in the 15 south is 3 ft. wide, and not very productive for lead, some saving work; the stope in the back of this level is worth 3 cwt. per fm. In the 15, east of the shaft, the lode is 3 ft. wide, and not very productive for lead, some saving work; the stope in the back of this level is worth 3 cwt. per fm. In the 15, east of the shaft, the lode is 3 ft. wide, and not very productive for lead, some saving work; the stope in the back of this level is worth 3 cwt. per fm. In the 15, east of the shaft, the lode is 3 ft. wide, and not very productive for lead, some saving work; the stope in the back of this level is worth 3 cwt. per fm.

**TREWOLIS.**—J. Burgan, B. Dunstan, Aug. 13: The flat-roof shaft is now being sunk below the 20, by eight men, who have contracted to complete the shaft to the 33, including the fixing of the skip-roads, ladder-roads, and all other fixtures, for the sum of 188£. The lode in the shaft is large, and producing a little tin and copper; the ground has improved recently, and the sinking will probably be more rapid than anticipated. The 23 has been driven west 11 fms. through a large lode, varying in value from 5¢ to 20¢ per fm.; the lode in the present end, driving by eight men, has much improved within the last few days; now 3 ft. wide, carrying a course of soft floor-spar on the north part, which has let down the water from the western part of the mine for a distance of 100 fms.; beyond this end about 3 fms. a winze has been sunk from the level above to within 15 ft. of this level, in the bottom of which the lode is 3 ft. wide, also carrying with it a quantity of floor-spar, and is worth for tin 30¢ per fm., sinking at 50¢ per fm. No. 2 winze, 30 fms. further west, has been sunk 4 fms., producing good quality yellow copper ore, and improving in depth. The 13 has been driven 63 fms. west, from which level and backs we have raised tin and copper enabling us to dispense with calls for the last six months, with improved prospects for the future. The 13 end has passed through a poor piece of ground for 3 fms. in length, but has again improved. The stope in the back, east of western winze, west of shaft, are worth 3 tons of good quality copper ore per fathom. We have already raised since our discovery of copper 90 tons, 40 tons of which have been sold. We intend to sell from 5 to 6 tons of tin this week. We would say that we have had two shafts sunk from surface in the western ground below the level of the 13, now about 6½ fms. and 3 fms. below this end, the perfectly dry from the water having been cut down by the discovery made in the bottom level at the flat-roof shaft before alluded to.

**TREWOLIS (Wendron, near Helston).**—J. Vivian Aug. 14: The set is very extensive, and is traversed by several east and west lodes, in a fine killas country, not far distant from the granite rock. The present workings are being carried on one of the middle lodes. The engine-shaft is sunk on a cross-course, about which for a few fathoms the lode is disordered, but is producing both copper and tin; this shaft is now down about 2 fms. below the 23. In the 23 west, and now in about 11 fms., the lode is 3½ ft. wide, of a very kindly appearance, and producing some very good copper ore. In a winze sinking below the 13, now about 6½ fms. and 3 fms. below this end, the lode is 3 ft. wide, of a very kindly appearance, and producing copper and tin. In the 13 west, now about 63 fms. from engine-shaft, the lode is kindly, and producing some very good copper ore, and it should be borne in mind that almost the whole of this level has passed through tribute ground. There is now at surface about 150£ worth of copper ore, and there are some pretty large piles of copper broken and not yet brought to surface. The returns of tin for some months past have been about 3 tons of black tin per month, which is likely to be on the increase. I beg to state, as my opinion, that on reviewing the whole set, and the workings that are being carried on, Treworlis is a very good speculation.

**TREWOLIS UNITED.**—G. R. Odgers, Aug. 10: We are progressing with the sinking of the engine-shaft and the other operations satisfactorily, which are looking much the same as I stated last week.

**UNITED MINES (Tavistock).**—J. Tucker, Aug. 14: The particulars of our tatwork setting, on Saturday last, are as follows:—The 60 to be continued east by six men, at 5¢ 10s. per fm., stented the month. The south lode in this end is worth 9¢ per fathom. The north lode is about 1 ft. wide, but as yet of no value; the same level to be continued west by four men, first to drive north of the lode at 50s. per fm.; the lode here is 6 ft. wide, of a very promising character, and producing tin, but not enough to pay for driving the end. The wheeling for one month at per fathom as follows:—from shaft and winze 12s., from ends 6s. No lode has been taken down in the winze since my last. I hope the winze-kibble will go to the 72 in three weeks from this date.

**VALE OF TOWY.**—A. Waters, T. Harvey, Aug. 13: At Clay's engine-shaft, sinking below the 100, the lode looks promising, and the ground is favourable for progress. In the 100, driving north of shaft, the lode is wide, composed of carbonate of lime, barytes blende, and spots of lead ore, but not to value. In the 100, driving south of great cross-course, the lode is 18 in. wide, composed chiefly of fluor-spar and gossan; we shall have a better lode here when we get into easier ground. In the 90, driving south of Field's shaft, the lode is from 4 to 5 ft. wide, making good ore on the footwall, and rich slabs of lead ore against the hanging wall. We have commenced a winze below the 80 south, about 12 fms. beyond the present 90 end, where the lode is 2 ft. wide, with a mixture of rich ore throughout. The ground over the said winze is being wrought on tribute at 30s. per ton of lead. In the 90, driving north of Clay's shaft, the lode is from 4 to 5 feet wide, yielding good lumps of lead ore, saving work. No change to notice in the shallow adit, driving south of Nant's shaft, for some weeks past. On Saturday last we let 22 pitches, at tributes varying from 30s. to 140s. per ton of lead ore. Our surface operations are progressing as usual.

**WENTNOR.**—T. Pierce, Aug. 15: The string by the side of the main lode in the 64 is yielding good ore; it is settled down, as stated in last report, to a vein 12 in. wide; we have opened on it about 11 ft., where it is carrying lumps of ore embedded in clay.

**WEST BASSET.**—W. Roberts, Aug. 14: In the 114 west the lode contains 3 feet wide, producing stones of good ore. The lode in the 104 west is 2 ft. wide, with stones of ore—tribute ground. In the 84 west the lode is 2 ft. wide, worth 1 ton of ore per fm., and is likely to improve. The winze sinking under the 75 produces good ore—tribute ground. In the 65 west the lode is 3 ft. wide, producing stones of good ore; improved since last reported. In the 52 west the lode is 2 feet wide—tribute ground. In other parts no alteration to notice. The tribute pitches are turning out tolerably well.

**WEST BRYN GWIG.**—J. Lloyd, Aug. 13: The 65 west is still in a broken state of ground, caused by a large canter lode crossing, which is composed of a softish mixture of yellow clay, spar, and decomposed rocks of limestone, with a few stones of ore cutting occasionally. We have commenced sinking a winze under the above level, on the course of the shoot of ore that has been cut through. This winze is only 1 yard deep, and the lode shows improvement in going downwards, and produces fine stones of ore.

**WEST DEVON CONSOLS.**—Capt. Rowe, Aug. 13: The lode in the 40, east from south lode engine-shaft, still continues to increase in size as we drive in that direction; it is now 1 ft. wide, composed of very strong munda, quartz, with occasional stones of good quality copper ore, from which a considerable quantity of water is freely issuing, which looks well for a further improvement. The 23 tons of ore sampled, and found to produce 3¼ per cent. of fine copper, should be considered a very satisfactory result, considering that it was obtained at such a shallow depth. There is not the slightest doubt of finding ore of much richer quality at deeper levels. We have a pitch working in back of the 30 east at 10s. in 31 tribute.

**WEST PAR.**—J. Webb, Aug. 15: We have holed the engine-shaft to the adit level.

In driving the adit north we have just cut into another lode, which appears hard and large; it will require some time to get through it. The founders sent the new cylinder cover here to-day; we shall put the engine to work in a day or two.

**WEST POLMEAR.**—W. Boddy, Aug. 15: The 20 fm. level cross-cut south is driven 39 fms.; we have intersected a branch, underlying 2 feet in a fathom, about 6 in. wide, and composed of spar and flokan; this has let down a deal of water, but I consider we have a few fathoms further to drive to reach the first lode. The north lode is driven west about 23 fms., and we have resumed driving east; no change to report.

**WEST SHARP TOR.**—Wm. Richards, Aug. 12: We have not yet cut through the lode in the 150 cross-cut; there seems to be, however, some indications of being near the south wall; water percolates more freely, and there are some spots of granite in the back of the end. Morris's shaft has been sunk about 4 ft. in the past week, and the ground in the present bottom is a little more compact, caused by some branches of quartz and chlorite having come into it from the north. I will give you the depth of the shaft and extent of the cross-cut in my next report.

**WEST SNAILBECH.**—J. Richards, Aug. 15: The engine-shaft is down 10 fms. 4 ft. below the 64. During this last week we have been able to do but very little in the bottom of the shaft, owing to the breaking of the pumping-shaft. The new discovery referred to in my letter of yesterday as being on the top of the hill, about 100 fathoms east of the engine-shaft, and which is on the south lode, is looking first-rate, considering it only being 5 feet below the surface of the ground. I am not as yet quite certain whether it is worked under or not. This I shall be able to inform you of in a few days. A sample of the lode I shall send to London to-morrow for your inspection, showing the prolific character of the lode.

**WEST SILVER BANK (Cardiganshire).**—D. Morgan, Aug. 13: I am glad to hear that you have got Col. Powell's opinion to the west of the Silver Bank Mines. I have no doubt but that there is plenty of lead ore, and by trenching for a few days by a couple of miners there will be plenty of lead to be seen. If you hold the Farm of Cennant, I think you will get the largest mine in Wales, as there is more talk about Great Myrn lead mine in that neighbourhood.

**WEST WENDRON CONSOLS.**—R. Kendall, J. Hore, Aug. 10: The engine-shaft has been sunk this week 5 feet; ground good for sinking; lode much the same as last week. The flat-roof shaft is sunk 6 ft. this week; the ground is a little harder; we are getting on with the north adit as well as we can expect. No change in the adit end behind the smith's shop. In the adit driving north from the south part of the sett the ground is very much improved for driving; we think we are coming near the lode.

**WEST WHEAL PROVIDENCE.**—J. Thomas, Aug. 12: The operations throughout the mine are progressing very favourably. The St. Aubyn's shaft, sinking below the 110, is improved for tin during the week, and is now opening good tribute ground, with a kindly appearance, and is quite drained by the 120, which is now about the point where the shaft will come down at that level. I have taken two or three 120 fm. level endmen to assist in sinking the shaft to make the communication as soon as possible, as it will greatly facilitate the driving of that level (the 120), and open ground for stopping. The lode in the 60 is very large. The other parts of the mine are much the same.

**WEST WHEAL TREVELYAN.**—G. R. Odgers, J. D. Osborn, Aug. 10: The shaftmen have commenced the plat, &c., preparatory to sinking below the 58, which we calculate will take them a fortnight. At the 58 west the ground is changing, and we think the hard capels are wearing out; we propose driving as far as the winze sinking below the 48, before cross-cutting the lode. The lode in the winze sinking below the 48 is 2 ft. wide, producing some very good ore; a flow has crossed it which has disordered the lode a little, but still it is a kindly lode. The lode in the 48 west is 2 feet wide, composed of quartz, peach, and good stones of ore—saving work, and which is a promising lode, where we are expecting a change for the better; the lode in the stope above this place is worth about 10¢ per fm. The lode in the eastern stope is worth about 8¢ per fm. The ground in the 28 cross-cut north is of a very congenial killas, and which we are hurrying on with all dispatch to intersect Pryor's lode. The ground in the cross-cut south at Park's is without any alteration.

**WHEAL AGAR.**—W. Roberts, Aug. 14: In the 80 east the lode continues 4 ft. wide, producing 2 tons of ore per fm. In the 80 west the lode is 2 ft. wide, with stones of ore. In the winze sinking under the 30 the lode is 2 ft. wide, producing stones of ore, and is likely to improve. The lode in the 70 west is 4 ft. wide, very promising, with occasional stones of ore; and the stope in the back of the 80 produces 4 tons of ore per fm.

**WHEAL AETHUR.**—T. Carpenter, Aug. 13: We are progressing as fast as possible with driving the 50 east and Hooper's rise, so as to make the communication as quick as possible. No alteration in any other part of the mine since last week's report.

**WHEAL CARADON.**—F. Pryor, W. Johns, J. Brown, Aug. 9: We have fixed the drawing-lift at the 40 in the engine-shaft, and are pleased to say the sinking of the shaft below this level progresses satisfactorily, and is down about 4 fms.; we have met with in sinking this past month occasional stones of ore, and the ground is of a more congenial character for mineral. In the 40 cross-cut, south of level, we have cut into the capels of the lode, which is letting out water freely. We shall be able shortly to report what kind of lode it is likely to be. We have suspended the sinking of the new or trial shaft, on Mary's lode, in consequence of the increase of surface water owing to the heavy falls of rain here, but as soon as the weather settles in dry the sinking of the shaft will be resumed again. The lobby is being pushed on with all speed to reach the latter shaft, with a view of taking up the top water, which now impedes our progress in the sinking of the shaft. We are glad to say the engine is now in good repair; with the alteration made in the pitwork the consumption of coals is considerably lessened, and water is kept at a great saving.

**WHEAL CHARLOTTE UNITED.**—R. Kendall, J. Penberthy, Aug. 10: The



WHEAL UNITY CONSOLS.—Wm. H. Reynolds, Aug. 10: The ground in the 75 cross-cut is better for driving, and we hope that we are nearly through the vein. The ground is strongly tinged with copper. No change in any other part of the mine.

WHEAL TREMAYNE.—R. Williams, J. Williams, Aug. 12: At the boundary engine-shaft, in the 133 east, on Allen's branch, the branch is chiefly composed of mudstone, mixed with spots of wolfram, with congenial looking ground for tin. In the 123, east of Allen's shaft, on Allen's branch, the branch is improving a little, and yielding some good tin-stuff, worth 10s. per fm. In the 113, east of the same shaft, on Allen's branch, the branch is worth 5s. per fm. In the cross-cuts north and south of the same level we have not cut any lode or branch worth noticing; these levels are suspended for the present. The slopes in bottom of the same level are worth on an average 12s. per fm. The slopes in back of the same level are worth on an average 14s. per fm. In the 103, east of the same shaft, on Allen's branch, the branch is improved, worth 10s. per fm.; this is a very important point, and looks likely for further improvement. The men cutting down and fixing skip-road at the new engine-shaft are progressing favourably. The masons are progressing very slowly in building the new engine-house, in consequence of not being a sufficient number on the work, so far they have not exceeded three masons.

WHEAL UNION.—T. Giverville, Aug. 9: Tutwot Setting: The flat-roof shaft to sink below the 56, by nine men, at 35s. per fm.; the lode is 2 ft. wide, producing stones of copper ore. The 40 to drive east of the cross-cut, on the middle lode, by four men, at 4s. 6s. per fm. The 40 cross-cut, to drive south of Moyle's shaft, by four men, at 8s. 10s. per fm. The eastern shaft to sink below the 18, by nine men, at 20s. per fm. The 20 cross-cut, to drive south of the old engine-shaft, by four men, at 14s. per fm.

WHEAL UNY.—Capt. Daw, Coade, and Rogers, Aug. 15: No. 2 Shaft: The lode is increased in width, and has taken a perpendicular direction on entering the granite; width about 9 in., vuggy, and producing 1 ton of copper ore per fm., and likely to improve in depth.—No. 3 Shaft: The lode in the 48 fm. level cross-cut south remains the same as last reported; it is composed of rich copper ore and decomposed spar, of a nature indicating improvement in depth; a winze is to be sunk on it to prove its value.

YARNER.—R. Barkell, Aug. 14: South Lode: The both winzes are holed to the 30; the lode in the western one, which is on the south part, is worth 2 tons per fm.; the eastern one will produce 3 tons per fm. The slope in the back of the 30 is also worth 3 tons per fm. We have taken the men that were sinking the western winze and put them to stop the back of the 30, on north lode; this slope will yield from 3 to 4 tons per fathom. No improvement in driving the 30 east on this lode. All other places are without change since last report.

R. Barkell, August 14: South Lode: The both winzes are holed to the 30; the western one, which is on the south part of the lode, and is about 6 ft. south of the level we drove in the 30, is worth 2 tons per fm.; the eastern one is worth 3 tons per fm. I would here remark that we have cut out two good pieces of ground, which we shall be able to stop at a good advantage. We have taken the men that were sinking the western winze and put them to stop the back of the 30 on the north lode; the said slope will produce from 3 to 4 tons per fm. Nothing new in the 30 east on this lode. We have 90 tons prepared for market, but not knowing the day we shall sample before I see Capt. Hampton, I cannot say the amount we shall sample; I should think about 100 tons.

FOREIGN MINING, AND THE NEW TARIFFS.—No. III.

The Mons Chamber of Commerce estimates the production, consumption, and exportation of coal in Belgium during 1860 as follows:—The production of the province of Hainaut was 7,506,720 tons; of the province of Namur, 220,000 tons; and of the province of Liege, 1,880,000 tons; making a total of 9,606,720 tons. The exportation of coal during the year was 3,453,737 tons, and the interior consumption 6,249,992 tons, the importation of foreign coal having amounted to 97,009 tons. With regard to the important province of Hainaut, a report just published by M. Gonot, director of mines in the district, enables us to furnish some further details on the position of its mineral industry. M. Gonot divides the collieries of Hainaut into three groups—1. Those situated to the west of Mons, and forming the district commonly called the Borinage (among the workpeople of which some serious disturbances have prevailed).—2. Those situated to the east of Mons from that town as far as the River Pignon. 3. Those in the environs of Charleroi, from the Pignon to the eastern limits of the province. The number of pits or vents in activity in the province last year was 221, as compared with 234 in 1859, 233 in 1858, 236 in 1857, and 241 in 1856; the quantity of coal raised was 7,506,720 tons last year, as compared with 7,099,326 tons in 1859, 6,855,011 tons in 1858, 6,441,182 tons in 1857, and 6,219,132 tons in 1856; and the value of the product was 86,793,943 frs. last year, as compared with 83,794,425 frs. in 1859, 82,247,614 frs. in 1858, 80,019,228 frs. in 1857, and 83,735,622 frs. in 1856. It will be observed that although the number of pits in activity has diminished by 13 in the five years, the quantity extracted has progressively increased, last year's production exceeding that of 1856 by no less than 1,287,588 tons. While the yield has thus advanced, prices have fallen in about the same ratio, the average per ton having been 11-56 frs. last year, 11-80 frs. in 1859, 12-00 frs. in 1858, 12-42 frs. in 1857, and 13-46 frs. in 1856. The three groups of collieries in the province contributed to the production in the following proportions:—

Year.	Mons.	Centre.	Charleroi.
1856	2,594,011	1,057,376	2,567,745
1857	2,691,079	1,083,169	2,666,934
1858	2,869,610	1,120,587	2,864,514
1859	3,067,124	1,098,670	2,993,522
1860	3,012,615	1,173,600	3,315,505

The production in the Mons group was thus almost stationary, but it increased 80,000 tons in the centre group, and no less than 322,000 tons in the Charleroi district, being an increase of about 10 per cent. in one year. The basin of Charleroi has also surpassed that of Mons in its production, and all tends to prove that it will maintain the position which it has acquired. The province of Hainaut furnishes almost the whole of the coal which is exported into France, the principal outlet for Belgian coals. The following figures, derived from official documents, show the imports and exports of coal and coke into and from Belgium during 1858, 1859, and 1860:—

Imports.	1858.	1859.	1860.
From England	57,362	53,896	42,988
From France	48,679	54,909	52,865
From other countries	1,864	1,271	1,156
Total.	107,905	110,069	97,009
Exports.	1858.	1859.	1860.
To France	2,598,000	2,988,252	3,301,829
To the Low Countries	182,015	198,055	143,982
To other countries	16,301	8,923	7,926
Total.	3,096,316	3,195,235	3,453,737

M. Gonot calls attention to the fact that notwithstanding the formidable competition of the coalowners of the Pas-de-Calais, and the diminution by one-half of the dues charged on the admission of English coals into France, the importation of Belgian coal into that country increased (as will be seen by the foregoing figures, and also on reference to the tabular statement in the last article published in the Mining Journal under this head) in 1859, 95,252 tons as compared with 1858, and in 1860, 313,577 tons as compared with 1859, while the importation of English coal only increased 32,768 tons in 1859, and diminished in 1860 to the extent of 6115 tons. M. Gonot, however, seems rather impatient, for the Treaty of Commerce has at present scarcely had time to work; certainly in 1860 it could have little or no effect. The conclusion to which he directs attention is, after all, too, only what might be expected, taking into consideration the greater identity of interests and the absolute identity of language existing between France and Belgium; but, nevertheless, the figures show the little reason Frenchmen have to fear English competition.

But to resume. The supplies of Belgian coal and coke which came to hand in France in 1860 arrived by the following modes of transport:—Canal from Mons to Condé, 1,029,937 tons; Upper Sambre, 380,496 tons; Lower Sambre, 211,993 tons; railways by Valenciennes, 150,329 tons; railways by Jeumont, 647,785 tons; railways from Mons to Haumont, 620,026 tons; railways from Mouscron to Lille, 60,508 tons; other routes, 200,755 tons; total 3,301,829 tons. Notwithstanding the reduction of navigation dues in France, the transport of coal by railway continues to increase much more rapidly than by canals. The quantities of coal and coke forwarded on the navigable streams of Hainaut to the various centres of consumption in Belgium and Holland were as follows in 1860:—Canal from Pommereul to Antoing, 636,412 tons; canal from Charleroi to Brussels (to Brussels, the Sambre, &c.), 941,651 tons; Upper Sambre district, 139,141 tons; Lower Sambre district, 434,195 tons; making a total of 2,151,429 tons, or an increase of 196,616 tons, as compared with 1859. Of the 221 pits in activity in the province in 1860, 207 were furnished with steam-engines, 8 with apparatus worked by horses, and 6 with apparatus worked by hand; but the two latter methods of extraction will soon be everywhere replaced by steam-impelled machinery. The mean extraction of each pit was 33,967 tons, or 3628 tons more than in 1859, a proof of the improvements introduced in the working arrangements. The steam machinery employed in 1860 was distributed according to the various services to which it was devoted, in the following order:—98 drainage engines, of a collective force of 13,961 horse-power; 220 machines of extraction in pits in activity, of a collective force of 14,012 horse-power; 69 ditto, in pits closed, &c., of a collective force of 2644 horse-power; 191 ventilating engines, of a collective force of 3112 horse-power; and 172 engines variously employed, of a collective force of 1243 horse-power; making a total of 750 engines, of a collective force of 34,972 horse-power. The total combined depths of the 221 pits in activity was 70,655 metres, or in English measure about 1040 ft. each. The total depth of the pits in reserve, ven-

tilating shafts, &c., was 148,686 metres. The length of the transverse galleries was 50,550 metres; of the galleries following veins, 188,304 metres; of the upright galleries, 26,526 metres; and of the galleries for ventilating purposes, 200,000 metres. The annexed figures give comparative particulars of the principal operations of the collieries of the province during 1859 and 1860:—Number of workmen—58,855 in 1859, and 59,542 in 1860, showing an increase of 687; average wages paid to each—759 frs. in 1859, and 755 frs. in 1860, showing a decrease of 4 frs.; extraordinary expenses—12,450,158 frs. in 1859, and 11,863,350 frs. in 1860, showing a decrease of 586,808 frs.; total expenses—75,338,014 frs. in 1859, and 76,667,270 frs. in 1860, showing an increase of 1,329,256 frs.; quantity of coal produced—7,099,326 tons in 1859, and 7,506,720 tons in 1860, showing an increase of 407,394 tons; value of coal produced—83,794,425 frs. in 1859, and 86,793,913 frs. in 1860, showing an increase of 2,999,488 frs. The average cost of production per ton was thus 10-61 frs. per ton in 1859, and 10-21 frs. per ton in 1860, while the average sale price was 11-80 frs. per ton in 1859, and 11-56 frs. per ton in 1860. The production of each pit in activity last year was, in the Mons district, 42,431 tons; in the centre to the east of Mons, 28,746 tons; and in the Charleroi, 30,417 tons; and each miner raised 110, 141, and 140 tons respectively. The sale price in the first district was 12-70 frs.; in the second, 12-44 frs.; and in the third, 10-21 frs. The number of successful mines in the first district was 16, making a profit of 5,425,000 frs.; in the second district 8, making a profit of 3,506,000 frs.; and in the third district 24, making a profit of 3,553,038 frs. Thirteen unprofitable mines were worked in the first district, at a loss of 972,000 frs.; 7 in the second district, at a loss of 442,000 frs.; and 16 in the third district, at a loss of 943,195 frs. The total profits were thus 12,484,038 frs., and the total losses, 2,357,395 frs., leaving a net result of 10,126,643 frs., or 1-35 frs. per ton. As regards the nature of the 7,506,720 tons of coal raised in the province last year, 1,804,870 tons were of the description known in the district as *charbon flambant*, 1,113,450 tons suitable for the production of coke, 3,753,535 tons of medium, and 814,865 tons of inferior quality. Particulars with regard to the iron trade of Hainaut must stand over for a future paper.

It is time, indeed, to turn to another quarter of the world, and we pass on, then, to Spain. It appears from the last report of the Compagnie Générale de Crédit en Espagne, that the various concessions possessed by the Compagnie Générale des Mines are being all developed, with the exception of the mines of the Sierra Nevada, Sierra Madrona, Niebla, and St. Vincent, which are yet in course of exploration. The coal mines of Santallan, and the argentiferous lead mines of Caroline and Linares, are those which at present yield the best results. It is anticipated that greatly increased profits will be realised when the Northern of Spain and Manzanarès and Cordova railways are completed, as they will put the mines in communication with Madrid, the ports of the Atlantic Ocean and the Mediterranean. In the course of last year the company sold 60,000 quintals of coal and coke from the Santallan Mines, and the total will, no doubt, be greatly increased after the completion of the branch line, which is being constructed for the purpose of bringing the mines into connection with the Northern of Spain system. The net profits of the company last year were 876,590 reals, a twenty-fifth part of which sum was carried to a reserve fund, while a dividend at the rate of 6 per cent. on the capital expended was paid to the shareholders, and the balance was applied to the partial repayment of the expenses attending the first establishment of the company. It should be stated that a large portion of the gross profits made during the year were applied to exploratory works, to the development of the various concessions, and to the purchase of machinery, the administration being anxious by this means to reduce as much as possible further expenditure on capital account. If this be all correct, and the word of a Spaniard used to be as dear to him as life itself, although in matters of state finance an honourable regularity has not always been the order of the day (probably through a governmental poverty, which seems no longer to exist), our friends the Dons set an example which many of our public undertakings, especially railway companies, would do well to follow.

Advices from Narbonne state that the establishment of blast-furnaces is proposed at the port of La Nouvelle, in that district. The furnaces would be fed by the ironstone of Leucate, which is found at a very short distance from the Perpignan Railway, and in the neighbourhood of La Nouvelle. They would also be in easy relation with the sea, the Robine Canal, the ordinary road, and the railway, which would transport the combustible material to the foot of the works. Recent operations have rendered available, near the village of Treilles, mines of oxide of iron, which appear abundant, and of excellent quality. A revolution is on the eve of being effected in the iron-works of the Pyrenees, where the old Catalan method of smelting has hitherto been adopted. This method, introduced probably by the Phœnicians, was advantageous, in so far that it yielded excellent products, and that the expenses to be incurred in the first instance were reduced to the lowest possible point; but it necessitated the consumption of an enormous quantity of charcoal, and, as this combustible becomes every day more rare in the district, several works were obliged to extinguish their fires. The new process put in operation in the works of Bilbao realising a saving of two-thirds in the combustible material employed, there is ground for hoping that the works of the Arige, the Aude, and the Eastern Pyrenees will be yet able to continue for some time in activity, notwithstanding the competition of the irons of Prussia, Belgium, and England. Some French mining engineers who have visited the Biscayan district, for the purpose of studying the new process, have obtained excellent information with regard to it, and all leads to the presumption that the Catalan works will be soon forced to adopt it, although it involves somewhat larger expenses in the first instance. A complete division of labour is in the new process substituted for the old confused method, and three distinct operations are necessary:—1. The deoxidization of the ironstone by oxide of carbon.—2. The separation of the ferruginous matter.—3. The fusion of the iron.

The price of iron at Charleroi is well maintained, and stocks are being reduced. The approaching completion of new rolling works at Châteauneuf is announced; they are being established by M. Gallet. The French ironmasters of the Northern and Ardennes districts complain of their position, but a Belgian writer argues that they have no ground for doing so, seeing that they are protected by a duty of 70 frs. per ton, which he contends in the present state of metallurgical industry is prohibitive. He adds:—"Those who have had the want of intelligence to place their works on the point of the lightning conductor, called protection, may be thunderstruck, but the others flourish well, for the French market belongs to them entirely, and Belgians can glean only miserable profits in the field of warrants." At Saint Dizier also the market is pretty well sustained, although all its branches are not active throughout.

SEPARATING COPPER FROM ITS ORES.—Mr. Peter Spence, of Newton Heath, Manchester, provisionally specified an invention, which consists in treating sulphides of copper (either before or after they have been treated for sulphuric acid) by calcining, grinding, dissolving, and precipitating in the usual manner.

CHLORINE AND OXYGEN.—Mr. C. Binks, of Parliament-street, provisionally specified an invention, the object of which is the economic manufacture of chlorine and oxygen; and, as regards the chlorine, it consists in effecting the decomposition of hydrochloric acid through the agency of oxygen gas, mixed with or brought in contact with the hydrochloric acid preferably under the conjoint action of a high temperature, and the presence of substances capable of retaining the water formed by the reactions between the oxygen and the hydrogen of the hydrochloric acid, but not capable of retaining or fixing the chlorine, which is thus liberated in its gaseous form. As regards the production of oxygen, the invention consists first in effecting the decomposition of water free or combined, or in its ordinary form, or in that of steam, or of steam superheated, or otherwise through the agency of chlorine mixed with or brought into contact with the water or the steam under (preferably) the conjoint action of a high temperature, and the presence of any substance capable of retaining or fixing the hydrochloric acid formed by the reactions between the hydrogen of the water and the chlorine, but not capable of retaining or fixing the oxygen, which is thus set free in its gaseous form. Secondly, the invention consists in manufacturing oxygen by exposing oxides of manganese, preferably the sesquioxide and peroxide, to the action of chlorine, and preferably adding the reactions between these by means of heat applied either to the oxide, or to the chlorine, or to both, thereby forming chloride of manganese, and setting free in its gaseous form the combined oxygen of the oxides. The residual chloride of manganese can then be treated for re-oxidation of its metal by methods for that purpose secured to him by a former patent.

CUTTING AND SHAPING METALS.—In constructing and working steam engines for cutting and shaping metals, Mr. Wm. Darby, of Birmingham, proposes to make the ram or hammer of the stamp hollow, so as to constitute a box, into which he screws or otherwise fixes weights for adjusting the weight of the said ram or hammer to the work to be effected by it. The ram works between two uprights, as usual, and rises and falls thus:—To the upper part of the ram he fixes a projection or tooth, under which tooth curved arms or caps, on a rotating horizontal shaft or axis, engage and lift the said ram. When the ram has been lifted to the proper height by one of the caps, the cap escapes from under the fixed projection, and the ram falls by its own weight, and operates upon the sheet metal or article placed on the fixed die, in the bed of the stamp. The horizontal shaft carrying the curved arms or caps is fixed in bearings about the same height as the tooth or projection on the ram, and motion is given to the said shaft by steam or other power. Two or more stamps may be worked from the same shaft, and by shortening or lengthening the arms the force of the blow may be regulated.

THAMES TUNNEL COMPANY.—Receipts for the week ending August 10, 1861. 7s. 10d.; number of passengers, 14,014.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET.—LONDON, August 16, 1861.

COPPER.		BRASS.		FOREIGN STEEL.	
Best selected	96 0 0	Sheets	8 1/4 d. - 9 1/4 d.	Swedish, in kegs (rolled)	14 10 0
Tough cake	95 0 0	Wire	9d. -	" (hammered)	15 10 0
Tin	95 0 0	Tubes	10d. - 10 1/4 d.	Ditto, in faggots	15 10 0
Burnt	95 0 0			English, Spring	18 0 - 23 0
Coplas	90 0 - 93 0 0			Beasmer's, Engineers Tool	44 0 -
Copper wire	0 1 0 -			" Spindles	30 0 -
ditto tubes	0 1 0 -			QUICKSILVER	7 0 0 p. bottle
Sheeting & bolts	0 0 10 1/2 -				
Bottoms	0 0 11 1/2 -				
Old (Exchange)	0 0 9 -				
IRON.		SILVER.		ZINC.	
Bars, Welsh in London	6 5 0 -	Foreign	17 5 0 -	In sheets	24 0 0 -
Ditto, to arrive	5 17 6 -	To arrive	18 5 0 -		
Nail rods	7 0 0 -				
Stafford in London	7 0 0 -				
Bars ditto	7 10 0 - 8 0 0				
Hoops ditto	8 10 0 -				
Sheets, single	9 0 0 - 9 10 0				
Refined metal, ditto	0 0 5 0 0				
Bars, common, ditto	5 0 0 -				
Ditto, merchant, in Tees	6 10 0 -				
Ditto, railway, in Wales	5 0 0 - 5 2 6				
Ditto, Swed. in London	10 10 - 11 0 0				
To arrive	10 0 - 11 0 0				
Fig. No. 1, in Clyde	2 8 0 - 2 10 0				
Ditto, f.o.b. in Tees	-				
Ditto, f.o.b. in Tees	-				
Staffordshire Forge Fig.	8 10 0 - 8 12 6				
Welsh Forge Fig	-				
LEAD.		TIN.		TIN-PLATES.	
English Fig	19 5 0 - 21 0 0	IC Charcoal, 1st qua. p. bx.	1 8 0 - 1 9 0	IX Ditto 1st quality	1 14 0 - 1 15 0
Ditto sheet	20 10 0 -	IX Ditto 2d quality	1 4 6 - 1 6 6	IX Ditto 2d quality	1 11 0 - 1 13 0
Ditto red lead	22 0 0 -	IX Ditto 3d quality	1 1 6 - 1 2 6	IX Ditto 3d quality	1 7 6 - 1 9 0
Ditto white	22 0 - 30 0 0	IX Ditto 4th quality	1 10 0 - 1 12 0	IX Ditto 4th quality	1 10 0 - 1 12 0
Ditto patent shot	23 0 - 24 0 0	IX Ditto 5th quality	1 10 0 - 1 12 0	IX Ditto 5th quality	1 10 0 - 1 12 0
Spanish	18 0 0 -	IX Ditto 6th quality	1 10 0 - 1 12 0	IX Ditto 6th quality	1 10 0 - 1 12 0

\* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—The course of our market has not at present attained that steadiness and regularity which imparts implicit confidence to buyers; the demand has been too variable, and prices unsteady, to give any positive position to metals. There should exist some indication at least of an average business continuing, and of a genuine character, to provide against any material decline before large operations are commenced. The stability of our market must be established by legitimate transactions, mere speculation cannot effect a permanent improvement. With cheap money much may be accomplished, but merchants like to see some prospect of a fair return for their outlay previous to shipping. The advices from most of the foreign markets are still gloomy, and also abundantly supplied. The reduced rates of discount will undoubtedly give a fresh impetus to speculation, and, in the absence of other orders, help to carry our market through an uncertain period. American affairs must inevitably retard the progress of commerce, by exercising a depressing influence whenever there is a lull in the demand from other parts, or in case of any continental disturbance, would combine to disorganise the whole of our market.

COPPER, IRON, TIN, and all other metals, are mostly remaining at last week's quotations, excepting ZINC, which has advanced 2s. per ton.

The Bank of England further reduced the rate of interest to 4 1/2 per cent. on Thursday, and this, with the splendid weather during the early part of the week, has added increased firmness to the general markets. In the MINING MARKET a fair average amount of business has been transacted, and the demand is daily increasing for good dividend and progressive mines, and we have reason to hope that both tin and copper will advance in price. Progressive mines are still the most sought after, and more than the usual business doing in those where a rise, from certain points of interest to come off, is expected. The settling day, on Thursday, was very quiet, and showed a marked contrast to the excitement of a month or two since, and shows us, also, that there is less of gambling speculation going on. The shares mostly dealt in have been Wheal Ludcott, West Rose Down, Marke Valley, East Caradon, East Basset, Herodsfoot, North Downs, North Treskerby, Wheal Unity, Retallack, Grenville, East Grenville, Cook's Kitchen, Carn Camborne, South Frances, Old Tolgus United, Stray Park, Tincroft, Merilyn, Wheal Trelawny, South Herodsfoot, Mary Ann, East Russell, Sortridge Consols, South Condour, Holmbush, Great South Tolgus, &c. Alfred Consols, 17s. 6d. to 22s. 6d.; Carn Brea, 65 to 70; Charlotte United, 1 to 14. Cook's Kitchen shares have been rather flatter, at 24 1/2 to 25 1/2. Copper Hill, 85 to 90; Devon Great Consols, 34s. to 35s.; East Basset, 74 to 76; East Caradon, 23 1/2 to 24 1/2, and firm. Marke Valley shares have been in good demand, and have advanced to 9 1/2, 10 1/2. East Russell, 3 1/2 to 3 3/4. West Seton, 290 to 295; at the meeting, on Aug. 13, the accounts showed a profit on two months of 3928l. 17s. 8d., and a dividend of 7l. per share (2800l.) was declared, leaving 1930l. 18s. 11d. in hand, the last account having been 802l. 1s. 8d. only. The amount of ore to come to credit of next account is 4833l. 3s. 10d. This amount is small, owing, in the first place, to the fall in the standard being equal to 12 per ton on the ore sold, and the August sale being only 368 tons, instead of 650, which it would have been but for the breakage in the balance-bob underground, which prevented the ores being drawn to surface. At the next meeting the same dividend of 7l. will be declared, and afterwards, from the improved position of the mine, the dividends should increase. Two months ago the ends, in the aggregate, were worth 9 1/2 tons per fm.; winzes, 18 tons; stopes, 44 tons. At present the ends are reported as having improved to 16 1/2 tons; winzes, 17 1/2 tons; stopes, 52 1/2 tons.

West Rose Down shares have advanced to 20, 20 1/2, or a premium of 17l. per share; we have not heard that any discovery has been made. Carn Camborne, 1 1/2 to 1 3/4, and largely dealt in. About 14 tons of rich ore have been broken from the rise, and the 10, east of rise, producing 1 ton per fm. East Grenville shares declined early in the week, owing to the 35 west not looking quite so well, but we think both this level and the shaft have since improved; shares leave off 37s. to 39s. Great Retallack shares have been in good request, and few sellers, at 19s. to 21s. No change reported in the mine. Great South Tolgus shares in good request, at 3 1/2 to 3 3/4. Great Wheal Fortune, 10 1/2 to 11 1/2. Wheal Grenville shares declined to 25s., sellers, but rose after the meeting, and leave off 1 1/2, 1 3/4; call paid. The accounts showed liabilities over assets 1018l. 7s. 6d., and a call of 4s. per share was made; and in order greatly to reduce the expenses in future, it was resolved to confine operations to sinking the engine-shaft below the 110, drive the 90 and 110 west, and the 80 cross-cut north, to cut the East Grenville lode, which is now considered to be near at hand, and also to sink the flat-roof shaft on East Grenville lode, which, as far as seen, is as promising as it was in East Grenville at the same depth. Great Crinnis, 1 1/2 to 1 3/4; no change at the mine; the lode still being carried for 7 feet in width, composed of spar, mudstone, and copper ore; of the latter ore 43 tons have been sampled. Caddra, 30s.; no change in any of the levels, the lode in the 60 west is 2 1/2 ft. wide, worth 15 cwt. of tin per 100 sacks; the slope in the back of the 60 is also worth 15 cwt.; dressing tin will be commenced on the 20th: 5 tons of the last taking down of the lode in the 60 yielded over 2 tons of black tin. Old Tolgus, 14 to 15; the 32 fathom level improved; no other change to notice. Great Alfred, 4 to 5; it is not surprising that the lords, who are the receivers of the dues on ores sold, and the merchants who have been benefiting by large supplies to the company, should feel disappointment at the suspension of this mine; but notwithstanding the number of circulars that have been issued to the shareholders during the week, we apprehend the London adventurers will consider that they have exercised a wise discretion in what they have done. The mine has been a continuous and heavy drag upon the shareholders for many years past, after having promised, at one time, the greatest success, and upon which the shares rose to a very high price. In May, June, and July of this year copper ores to the value of 4331l. 19s. 2d. were sold, upon which the dues to the lord were 72l. 3s. 11d., but the raising this ore resulted in a loss to the shareholders of 1120l. 7s. 11d.; the merchants' bills during the same three months were 1668l. 5s. 3d. The company commenced working in 1850, and to the present time calls have been made upon the proprietors amounting to 71,995l. 14s. 8d., and the returns of ore during the same time have been 99,385l. 11s. 2d., making altogether 171,381l. 5s. 10d. spent on the mine, without any benefit whatever to the shareholders, except those who have also been merchants to the mine; and the lords have received 2531l. 15s. 10d. in dues. We believe we may add that if, after such an outlay as this, the agents of the company could have



assured the shareholders that there was a fair prospect of the mine paying its way, they would not have passed the resolution to stop it.

Herodsfoot, 33 to 34; Hingston Downs, 11 to 2; Merilyn, 15s. to 20s., and in request; North Miners, 30s. to 32s. Wheel Hope, 1 to 1½; at the meeting a call of 5s. per share (2048ths) was made. The engine has gone to work, and the prospects of the mine reported as highly encouraging for early returns. East Devon Great Consols, 1½ to 2½; the lode in the 40 west is reported as having improved in appearance, being composed of more friable quartz, with spots of yellow ore. North Roskear, 15 to 16; North Treskerby, 20 to 22; Prospidnick, 1 to 1½; Sorridge Consols, 10s. to 12s.; South Carn Brea, 2½ to 3; South Frances, 11½ to 12½; and more in request; St. Ives Consols, 29 to 31, and in demand; Providence Mines, 32½ to 33, also in demand; Stray Park shares have been flatter at 24½ to 25½; Tolvadden, 2½ to 2¾; Trencor, 5s.; West Caradon, 38 to 40; Wheel Basset, 85 to 90; Wheel Ludcott, 2½ to 3½, buyers, and in request in anticipation of a further rise; Wheel Margaret, 40 to 42½; Wheel Mary Ann, 7½ to 8½. Wheel Seton shares declined to 50, 55, sellers, and on Thursday morning shares were sold at 57 and 58, but suddenly in the afternoon a demand sprung up for shares, when they rose to 65, and leave off at 80, but not so firm. The rise is said to be owing to an improvement in the 140 cross-cut, particulars of which have not yet reached us. At the meeting the accounts showed 682 profit on two months' working. Wheel Trelawny, 13½ to 14. Wheel Unity in good request at 19s. 6d. to 21s. 6d., and shares difficult to get. Wheel Ury, 4 to 4½; Wheel Wrey, 1 to 1½; West Polmar, 19s. to 21s.; Wheel Sydney, 30s. to 35s. Wheel Trebor, 10s. to 12s.; the prospects here are improving, especially in the bottom level, the 60. West Basset, 14 to 16; Tincroft, 5 to 5½; Wheel Buller, 85 to 95; North Basset, 3½ to 4. North Downs, 4½ to 5½; we understand a dividend of 2s. 6d. per share was declared at the meeting in Cornwall. South Condurrow, 11s. to 12s. Rosewell Hill and Ransom, 1 to 1½; the lode in the 100, west of the Troan, is now 4 feet wide, worth 30s. per fm.; the lode in the winze below the 100, west of the Troan, is now worth about 10s. per fathom. Great Trevedoe have advanced to 12s. 6d., 15s., owing to a good discovery of tin. South Caradon Wheel Hooper, 34½ to 35½; a telegram was received late this afternoon, stating the lode in the 62 west end had improved to 8s. per fm., and likely to further improve.

On the Stock Exchange, business in Mining Shares has been rather inanimate during the week. The following prices were officially recorded in British Mining Shares:—East Caradon, 24, 24½; Wheel Trelawny, 13½; West Caradon, 40½; Stray Park, 24½; Great South Tolgus, 3½, 3½; Vale of Towy, 1. In Colonial Mining Shares the prices were:—Great Northern Copper of South Australia, 1½, 1½. Bon Accord, 1, 1; Kapunda, 2½; Port Phillip, 1. In Foreign Mining Shares the prices were:—St. John del Rey, 34½, 35½, 35½, 35½; Linares, 7½; Mariquita, 1; United Mexican, 4½, 4½, 4½.

The closing quotations for shares in new undertakings were as follows:—Ocean Marine Insurance, 4½, 4½ prem.; Thames and Mersey Marine, 13-16, 15-16 prem.; Universal Marine Insurance, 13-16, 11-16 dis.; London and Provincial Marine, 1 dis. to par; Oriental and General Marine, 1½, 1½ prem.; Mercantile Fire, 9-16, 11-16 prem.; Commercial Union Fire, 1½, 1½ prem.; Natal Land, 1½, 1½ dis.; and China and Japan Steam, 1½, 1½ dis.

At the Swansea Ticketing, on Tuesday, 1236 tons of ore were sold, realising 14,511. 5s. 6d. The particulars of the sale were—Average standard, 104½; average produce, 13½; average price per ton, 11s. 13s. 10d.; quantity of fine copper, 165 tons 6½ cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore cop.
July 16.....	2532	98 11 6	13 1-16	£10 13 6	£81 15 0
July 30.....	1071	96 9 6	16½	15 17 0	84 10 0
Aug. 13.....	1236	104 0 0	13½	11 13 10	87 8 4

Compared with last sale the advance has been—in the standard, 3½; and in the price per ton of ore about 8s. Compared with the corresponding sale of last month the advance has been—in the standard 5s. 15s., and in the price per ton of ore about 15s. 4d. Of the 1236 tons of copper ore sold on Tuesday, 399 tons were from British mines, which gave an average produce of 10½, and sold at an average standard of 108½. 14s.—8s. 16s. per ton of ore. The remaining 837 tons were foreign ores, which gave an average produce of 15, and sold at an average standard of 102½. 8s.—13s. 1s. 5d. per ton of ore. On Sept. 3, there will be offered for sale 2465 tons of ore, from Cobbe, Berehaven, Oolkip, Wheel Maria, Cuba, Knockmahon, Del Soto, Laxey, Garrucha, Lochwinnoch, English and Canadian, Turkish, African, and Spanish Mines.

At Dolcoth Mine meeting, on Monday, the accounts for May and June showed—Balance last audit, 3701. 15s. 6d.; by copper ore sold, 2761. 18s. 3d.; tin ore, 1377. 15s. 7d.; arsenic, 604.; extra carriage of tin, 91. 15s. 11d.—less dues and rates, 1394. 15s. 6d.—11,355. 9s. 9d.—Mine cost, 5679. 3s. 9d.; merchants' bills, 2622. 4s. 8d.—leaving profit on the month's working, 2632. 5s. 10d.; from which the half-year's income tax on profit (1001. 8s. 9d.) was paid, and a dividend of 25067. (71. per share) was declared, carrying 397. 12s. 7d. to credit of next account. The captain's report is among the Mining Correspondence.

At the Minera Mining Company annual general meeting, on the 2d inst., a dividend of 4s. per share was declared, making on the profits of last year, ending June 30, 15s. 10s. per share.

At Wheel Seton meeting, on Monday, the accounts for May and June showed—Balance last audit, 8041. 16s. 6d.; ore sold and carriage, 2069. 8s. 2d.—2871. 4s. 8d.—Mine cost and merchants' bills, 2000. 19s. 1d.; leaving a credit balance 5731. 5s. 7d.

At the North Wheel Robert meeting, on Monday, the accounts showed a balance of assets over liabilities of 4011. 14s. 5d. The agents, in concluding their report, state that the prospects of the mine are greatly improved, and they calculate on sampling from 120 to 130 tons of ore monthly, at a cost of about 650s. per month. The accounts were passed, and Capt. R. B. Mann was elected on the committee, in the place of the late Mr. Hancock.

At the Kelly Bray Mine meeting, on Thursday (Mr. John Field in the chair), the accounts showed a debit of 217. 19s. 11d. A call of 2s. 6d. per share was made. At Bryntail Mine meeting, on Tuesday, the accounts for the five months ending June showed—Balance last audit, 1742. 10s. 2d.; calls received, 3911. 4s.; ore sold, 4001. 13s. 6d.; loan 55s.—1057. 7s. 7d.—Mine cost, 7071. 13s. 6d.; loan repaid and sundries, 3181. 17s. 8d.; leaving credit balance, 207. 16s. 6d. A call of 5s. per share was made. Capt. James Roach reported upon the various points of operation.

At the Great Briggan Mine meeting, on Monday (Mr. Jas. Eives in the chair), a committee consisting of Messrs. Pryor, Harvey, and Robinson, with Mr. E. Davey, M.P., as referee, was appointed to investigate the accounts from the commencement of the mine some 15 months since to the end of July last. The chief points of dispute arose through a clerical error, if any exist, of an invoice of materials entered in two consecutive cost-sheets, but not paid, and with respect to the contract for the engine. The contract seems to have been verbally made before the cost-book was drawn up and confirmed at the first meeting of adventurers—the price list, according to which all was to be charged, being handed to the purchaser (and being still in his possession) at the time the contract was made. Several letters have passed between the parties whilst the work was in execution. Details in another column.

At the Wheel Hope meeting, on Thursday (Mr. J. Y. Watson in the chair), the accounts showed a balance of liabilities over assets of 338s. A call of 5s. per share was made.

At the Wheel Grenville meeting, on Wednesday (Mr. W. H. Cuell in the chair), the accounts showed a balance of liabilities over assets of 1018s. 7s. 6d. A call of 4s. per share was made.

At the Great North Tolgus Mine meeting, on Monday (Mr. Paull in the chair), a call of 10s. per share was made.

At the North Miners Mine meeting, on Monday (Mr. J. W. Williamson in the chair), the accounts showed a balance of assets over liabilities of 4110s. It was stated that a dividend would be declared during the present year.

At Garlinda United Mines meeting, on Aug. 7, the accounts for three months ending May showed a debit balance of 11661. 14s. 10d., which was divided pro rata. The London office of reference was ordered to be discontinued. By the report of Capt. J. Rowe and P. Friak the terms of the prospectus on which the company was formed had been more than fulfilled, as for less than the sum stated they had been enabled to return tin; their first sale realised 7251. 11s. 5d.; the quality of the tin was very good, making a produce of 14½, which is an important event in establishing the value and quality of the ore raised from the mine. The dressing-floors not having been completed, they have been unable to return any portion of the slime tin. They had 120 hands employed on the mine.

At South Wheel Margaret meeting, yesterday (Mr. M. R. Leveson in the chair), the shares were all subscribed for, and a call of 3s. per share was made. Operations were ordered to be at once vigorously prosecuted on the south lode.

At Devon Wheel Buller meeting, on August 8 (Mr. S. E. S. Carpenter in the chair), the accounts showed—Calls received, 5412. 17s. 6d.; ore sold and carriage, 431. 9s. 7d.—8851. 7s. 1d.—Balance last audit, 361. 18s. 3d.; mine cost, merchants' bills, and sundries, 4381. 1s. 6d.; leaving credit balance, 1107. 7s. 4d. A call of 2s. 6d. per share was made. Capt. J. Williams and F. Kent recommended that the engine should be sunk at least 50 fms. deeper, at which point the north and south lodes meet; it is calculated form a junction; they also recommend that the present 35 lodes west should be continued. Captain Thomas Nell has inspected the mine, and confirms these recommendations, and also advises a reef to be put up in the back, as he believes there are good chances of a shallow deposit of ore being met with.

At the East Kongsberg Native Silver Mining Company of Norway meeting, on Tuesday (Major-General Pemberton in the chair), the accounts made up to the end of June showed a cash balance of 8971. The reports from the mines continue to be of an encouraging character.

At the Worthing Mining Company annual general meeting, on Monday (Mr. Cyrus Legg in the chair), a resolution was passed empowering the directors to deal with the reserved shares, by issuing them as preference shares or otherwise, as they might deem best for the interest of the company. Messrs. J. B. Elkin and A. Redgrave were re-elected auditors. Details of the proceedings will be found in another column.

At the Crown Preserved Coal Company meeting, on August 10 (Sir Ralph Howard in the chair), the accounts for the nine months ending July 15 (the period of the company's operations) showed—Capital subscribed on 1650 shares, at 5s. each, 8250s.; loans obtained by company, 1980s.; debts owing by company, 7091. 17s. 4d.; profit and loss, 4961. 15s. 4d.—11,450. 15s. 8d.—Furniture, preliminary expenses, and office furniture, 8321. 15s. 6d.; plant and buildings purchased, 9029. 6s. 2d.; debt to company, 127. 19s.; stock in hand, 9111. 4s.; leaving credit balance, 9371. 10s. 1d. The profit on the nine months' working was 4961. 15s. 4d. The directors recommended a dividend of 2471. 10s. (6 per cent. per annum) upon the half-year's working, but the meeting considered it undesirable to adopt the recommendation at present. The directors reported that their principal customers had been the Peninsular and Oriental and Pacific Steam Navigation Companies, and that wherever used it has given entire satisfaction so as to induce a repetition of orders. New buildings and machinery have just been completed to enable the company to meet the increasing demand—400 tons per week are at present produced. The company are prepared to grant licenses at royalties of 1s. per ton for export, and 9d. for home consumption—the licensees not to undersell the company. When the new works are in full operation the production of fuel will be doubled.

The Midland Wagon Company's revenue for the past half-year has attained a higher point than ever before reached, being 20,744, against 18,328, for the preceding six months. After paying a dividend of 10 per cent. on the ordinary stock there is a considerable margin of profit. The wagon stock, after deducting those sold, has increased to 3976. Upwards of seven years' experience of the wearing qualities of their own wagons, and a careful consideration of the practice of other companies, have satisfied the directors that a depreciation fund at the rate of 6 per cent. will be ample to protect the property of the company.

The West of England Wagon Company have 145 wagons, and 35 in course of construction. The revenue account, after reserving 2½ per cent. on the cost of the wagons let on hire, as the commencement of a depreciation fund, enabled the directors to recommend a dividend at the rate of 7 per cent. per annum on the paid-up capital. The whole of the wagons are let to highly respectable parties at remunerative rates. Much satisfaction was expressed by the meeting at the gratifying position of the company's affairs, as well as at the opinions expressed by the directors—Messrs. Perry, Bagshaw, Cosham, Filditch, Ford, and Gould—that as its business enlarges increased dividends would be realised.

LEEDS, AUG. 15.—Mining shares have been freely enquired after, and more business done, with little variation in prices:—Brea Consols, 17s. to 20s.; Cornubia, 15s. to 18s.; Craven Moor, 3s. to 4s.; Merryfield, 4s. 6d. to 5s. 6d.; Nidderdale, par to prem.; North Hallenbenge, 15s. to 25s.; Wensleydale, 7s. to 8s. MERRYFIELD MINING COMPANY.—A meeting of shareholders was held in the Town Hall, Leeds, on Aug. 7.—Mr. J. Idle in the chair. Mr. C. L. Dresser, the engineer of the company, stated that they had now completed opening out the long level, which will drain the shaft to a considerable depth below where the discovery of ore was made some time since, which ore can now be got. After passing a vote of thanks to Mr. Dresser, for the assistance rendered by him, and determining to prosecute the mine with vigour, the meeting, which was a satisfactory one, terminated. We are given to understand that an additional number of men have been set to work to break down the ore and raise it in increased quantity. We are truly glad in being able to state that the opening out of the level has been completed, and that the directors, shareholders, and officers and workmen, which have been attended with great expense and difficulty, on account of the nature of the work, have, by their united energy and perseverance, been crowned with success. The water level is 1600 yards in length, and has been 2½ years in driving, and will drain the mine to the depth of 42 fms. The working of the fine courses of ore, which were left two years ago, have been resumed. The prospects of the mine are encouraging, which we trust will be quickly followed by good and continuous dividends to the shareholders.—JOHN GLEDHILL and Co.

The Worthing Mining Company have sold a parcel of regulus at Swansea of 48 per cent., realising 421. 13s. per ton.

MINING IN TURKEY.—The new Sultan, Abdul-Aziz, has instituted a department—a special administration of mines and forests; and inasmuch as it has long been known that Turkey possesses considerable mineral wealth, which only requires to be properly worked to return large profits to the adventurers, and to increase the revenue of the country, the most satisfactory results are anticipated. The new department has been placed under the direction of Dervish Pasha, who has had much experience in Russia; and all that remains to be done is to regulate the conditions upon which Europeans may be allowed to undertake the regular workings of the mines and forests of the empire.

SMELTING SPANISH IRON ORE IN ENGLAND.—Mr. Morrison, of Ferryhill, has just imported a cargo of very fine quality iron ore from Santander, which is said to have proved very valuable in the South Wales district for improving the quality of the iron produced from British ores. The ore exists in enormous deposits within a ½ mile from the river, and is worked most inexpensively. Many hundreds of tons per week could easily be raised and shipped, and that whilst the present low freight continues a profit can be realised upon shipment either to Wales or the North.

AURIFEROUS STEEL.—The excitement which has been created by Mr. William Longmaid's process of manufacturing auriferous and platinised steel will naturally cause the details of the invention to be read with interest; we are glad, therefore, to be enabled to publish the complete specification of the patent. Although the proposal to alloy iron and steel with gold and platinum is not claimed by Mr. Longmaid as new, his discovery is one which, upon its advantages being satisfactorily demonstrated, will secure him an enviable reputation both in the chemical and manufacturing worlds: it has been found that the addition of several pounds weight of gold or platinum to the ton of steel "failed in producing any beneficial results," but Mr. Longmaid has discovered that by adding instead of several pounds only a few ounces, or even a few dwts., of the precious metal to the ton of steel, the effect is marvellous, and a very excellent quality of metal is produced. Mr. Longmaid is well known as an inventor, and it is to be hoped that in the production of cheap steel he will be as successful as he has been in his other discoveries.

THE COAL TRADE.—The quantity of coal and coke exported during the month of July, from the various coal ports of the United Kingdom, was—coal, 765,426 tons; and coke, 25,975 tons. This quantity, when compared with the returns for the preceding month, shows a considerable increase in the quantity exported. During the month 8389 vessels were engaged in the trade, of which number 3236 were employed in the foreign, and 5153 in the home coal trade.

COLLIERY OFFENCES.—At the Borough Court, Oldham, on Thursday, the managing partner of the Rhodes Bank Colliery, belonging to Messrs. Lees, Jones, and Co., was proceeded against by Mr. Dickinson, Inspector of Mines, and fined for the following offences:—1. For not providing an adequate amount of ventilation, as required by the 1st general rule, 5s. —2. For not fencing off noxious gases, as required by the 2d general rule, 2d. 10s.—3. For not having the safety-lamps locked, as required by the 3d general rule, 2d. 10s. It appeared that on the mine being inspected on the 6th inst., relative to a fatal accident which took place on the 4th, fire-damp, extending for about 30 yards beyond, in an explosive state was found within 7 yards of where men were at work, and the air throughout a large portion of the workings indicated the presence of fire-damp by a cap on the flame in the lamp, access to the explosive fire-damp not being fenced off, and the safety-lamps (about 70 in number) were all unlocked. The airways were also described as being partly closed up, and the main entrance for intake air for about 520 yards long so warm from steam as to resemble a Turkish bath. The slackness in the ventilation was attributed to some repairs being made which required the furnace to be out for about a fortnight. The Inspector described things as being ready for a general explosion. At the inquest, which was held by Mr. T. Farrant-Dearden, coroner, on the 8th inst., the death of the miner was attributed to sickness, caused by foul air, there being not sufficient ventilation, for which the jury considered the owners much to blame.

COLLIERY OFFENCES.—At the Rochdale Police Court, on the 9th inst., Mr. Samuel Lomax, manorial steward, was fined 5s., for employing a boy under 10 years of age at one of the manor collieries, the fact becoming known to Her Majesty's Inspector for the Manchester district through the death of the boy, in consequence of igniting some blasting-power. It was evident that Mr. Lomax knew nothing of the employment of the boy, who had been engaged by his father, the underlooker, his wages being included with his uncle's. The boy was seven years old in Nov. last, and had been employed at times for about a year. Mr. Lomax was also fined 5s. for non-exhibition of general rules.

RAISING MINERALS AND WATER FROM MINES.—Mr. Joseph Wright, of Dudley Foundry, Staffordshire, has just completed a working steam model of his patent steam-hoist, by which either water or minerals can be raised in a much speedier way, and at far less cost, than by the ordinary means. The model is made to a scale of ¼ in. to equal 1 foot, and represents a lift of 120 yards deep. The framework of his steam-cylinder has been placed vertically over a pit-shaft 3 ft. 6 in. diameter and 20 ft. deep, which has been sunk for the occasion at the above works. The machine can be seen in daily operation bringing up the water and delivering it at the pit's mouth entirely by self-acting motion. The following is a description of the invention:—A steam-cylinder of the same length as the distance to which it is required to raise or haul the weight is fixed in a direct line with the direction in which the weight is to be raised or hauled. In the cylinder a piston works; and when the piston is at one end of the cylinder the weight to be raised or hauled is connected to the end of the piston-rod; steam is then admitted into the cylinder behind the piston, by which the piston will be forced to the other end of the cylinder, and will thus raise or haul the weight with it. The cylinder is, by preference, made in lengths, which are bolted together, so as to form a cylinder of requisite length. In employing this apparatus for raising water from mines or from other places, a forked piece is attached to the other end of the piston-rod, from which is suspended an axle a bucket, in the bottom of which there are valves opening inwards. This bucket, when at its lowest point, descends into the water at the bottom, and the valve, opening inwards, allow the bucket to fill; steam is then admitted into the cylinder below the piston, when the piston will be forced to the top of the cylinder, raising the bucket with it. The bucket is then emptied, by being turned over on its axis. When the bucket is empty, the steam is al-

lowed to escape from the cylinder, when the piston and bucket will descend, and the same operation will be repeated. In order to raise minerals from mines, a cage or basket, similar to that now employed, is attached to the end of the piston-rod, in place of the bucket.

PRESERVING TIMBER.—The success which has attended the employment of Dr. Boucherie's process of impregnating timber with sulphate of copper is already well known, but the cost of applying the preservative has hitherto prevented its application to very many purposes where the preservation is as important as for railway sleepers and telegraph posts. To remove this impediment, Messrs. Dorsett and Blyth employ a new and more simple method of injection, which is to force into the pores of the wood the antiseptic liquid by means of a vacuum first produced in the pores, and, after the admission of the liquid solution, confined pressure of 120 lbs. to 150 lbs. on the square inch, in strong closed cylinders, that are not acted upon by the sulphuric acid in the salt of copper. Messrs. Dorsett and Blyth can inject the acid solution, either hot or cold, without injury to their apparatus, whilst the cost is below that of creosote, the wood is perfectly clean and inodorous, is nearly incombustible can be worked up for building and other purposes like unprepared wood, and can be shipped to any part of the globe with ordinary cargo.

THE STRIKE AT DYLIFFE MINES.—At the monthly pay, on Saturday, the managers of these mines proposed a reduction of 30 per cent. off the prices formerly paid for excavating the mineral wealth of these hills. The whole of the miners refused to take any of the "bargains" on the terms named, and in consequence the works are standing.—*Llanidloes Telegraph*.—The "strike" terminated after a three days' battle. The men gave in, and accepted more moderate terms—a reduction of 10 per cent. on the prices previously paid. These celebrated mines will now resume their work, and prosperously, under the able chief management of Capt. Edward Williams, one of the best practical miners Wales can produce. In the last quarterly returns of sales of lead ore Dyffyl was the fifth on the list, having sold 403 tons for 5184. There is every probability of this quantity being continued, if not exceeded.]

MINING IN IRELAND.—Two of the directors of the Schull Bay Copper Mining Company, Messrs. Joseph Thomas and Thomas Fawell, have recently visited the mines, and the company has issued an interesting pamphlet, containing an account of their visit and their opinions concerning the appearance and prospects of the mine. It appears that the numerous buildings at the mine, and all, both at surface and underground, are in the most satisfactory condition, Captain Thomas's cobbing machine answering most satisfactorily, and saving a great amount of manual labour. Want of rain had somewhat impeded dressing operations, but more recently the progress has been as much as could be expected; in fact, the visitors sum up the result of their visit by stating that they were highly pleased with all they saw of the mine and its management.

IMPORTANT QUESTION.—WIRE P. HEMPEN ROPE.—At Messrs. Longs, Keeling, and Chick's Pennywell Colliery, near Bristol, Henry Thompson was killed, and his brother badly injured, by the falling of a carriage of coal, through the breaking of a wire-rope. The rope was about 63 fms. in length, and was used on a wheel at the side of the pit. The men were at work within 12 ft. of the bottom of the pit, and when the rope previously the month of the shaft its weight, together with that of a coal descended upon the men. The underground ballist was in use, and was customary to examine the ropes every week, and that the rope in question, which had been in use about three months (about the time a rope lasts), was examined on the day of the accident. The jury examined some of the ropes in use, and found that several of the wires were broken. The coroner said he should adjourn the inquest until Friday, when he expected the enquiry would be a very close one. It appeared to him, at first sight, that the rope must have been in a very dangerous state, and he wanted to ascertain—and the jury would not allow the matter to pass over lightly—whether the wire-rope was to be preferred to a good stout hempen rope, such as he had been accustomed to see; and if it was not so sound, he should desire to know why it was used. He requested the underground ballist to tell the owners he should expect them to be in the way, and that he should require everything to be fully explained to his own and the jury's satisfaction.

SAFETY-LAMPS IN COAL PITS.—Mr. Matthias Dunn, Government Mine Inspector, has addressed the following letter to the Editor of the *Whitehaven Herald*:—"I find that at Whitehaven, and some other principal collieries, a practice is knowingly permitted of providing a loose wire for the purpose of pushing through the gauze of the lamp, for the ostensible object of trimming the wick, notwithstanding the lamp is provided with a regular pricker for the purpose. But the real object of said practice is to heat the wire at the flame of the lamp, for the purpose of lighting a pipe, or of lighting touch-paper, for the purpose of firing shots, both objects being against the rules and against the principles of safety, inasmuch as the introduction of said wire should damage or enlarge the spaces in the gauze it is no longer a safety-lamp. The Whitehaven colliery rule is:—Every hewer or other person to whom a safety-lamp is entrusted is strictly prohibited from interfering with it in any way whatever, beyond the necessary trimming of the wick with the prickers. The above notice will, therefore, I trust put a stop to so dangerous a practice."

FUEL.—An invention, which consists in mixing coal or coal dust with lime and water to form a compact fuel, has been provisionally specified by Mr. C. L. Hancock, of Pontonville. He mixes the materials, and after the mixture is complete he presses it into blocks and dries it. He gives the preference to slacked lime.

INTERNATIONAL EXHIBITION, 1862.—We are glad to learn that Mr. Robert Hunt, F.R.S., Keeper of Mining Records, has been appointed by Her Majesty's Commissioners superintendent of Class L.—Mining, Quarrying, Metallurgy, and Mineral Products; and secretary of the National Committee for this class.

LEAD ORES.				
Sold on the 9th August.				
Mines.	Tons.	Price per ton.	Purchasers.	
Cargill .....	86	£11 8 6	Sims, Williams, & Co.	
Sold on the 10th August.				
Keewick .....	25	10 12 6	W. J. Cookson & Co.	
Sold on the 15th August.				
Iale of Man Mining Company .....	100	14 2 0	Adam Eytton.	

BLACK TIN.						
Mines.	Tons c.	q.	lbs.	Price per ton.	Amount.	Purchasers.
Pedin-and-drea Utd.	8	8	0	6	£ 517 17	0—R. Mitchell & Co.
Sold on the 8th August.						
Sold on the 10th August.						
Gt. Wh. Vor	18	2	0	0	124 6	8—
Gt. Wh. Fortune	15	12	0	15	1081 12	0—
Fenhalls	5	10	0	0	65 0	0—
Sold on the 13th August.						357 10 0—Harvey & Co.
Brea Consols	4	9	1	23	235 15	4—

COPPER ORES.							
Sampled July 24, and sold at Swansea August 13.							
Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price
Cobre	100	13½	£11 5 0	Seville	6	15½	£13 1 6
ditto	96	13½	11 8 0	ditto	2	23½	19 18 0
ditto	47	22½	19 10 0	Ballycunnisk	35	6	4 15 6
ditto	94	13½	11 7 0	ditto	31	13½	12 0 6
ditto	93	13½	11 6 0	ditto	26	7	5 14 0
ditto	54	22½	19 9 0	Hunterdon	28	6	4 17 0
ditto	82	13½	11 12 6	ditto	2	21½	18 11 0
ditto	71	13½	11 12 6	ditto	20	8	6 6 0
ditto	13	65½	66 10 0	Mount Craig	27	11½	9 18 0
Knockmahon	68	10	8 13 0	Aus. Regulis	15	48	42 13 0
ditto	63	10	8 13 0	Aus. ore	2	22½	20 5 6
ditto	54	9½	8 11 0	Knockmahon	73	10	8 14 6
Seville	43	10½	8 6 6	ditto	49	13½	12 1 0
ditto	42	11½	9 11 0				

TOTAL PRODUCE.									
Cobre .....	650	£8817 2 6	Mount Craig .....	27	£267 6				
Knockmahon .....	185	1594 17 0	Australian Regulis .....	15	639 15				
Seville .....	93	877 6 6	Australian ore ....	2	40 11				
Ballycunnisk .....	92	688 2 0	Knockmahon .....	122	1237 7				
Hunterdon .....	80	299 18 0							

COMPANIES BY WHOM THE ORES WERE PUR
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# THE PROGRESS OF MINING IN 1860,

BEING THE SEVENTEENTH ANNUAL REVIEW.  
By J. Y. WATSON, F.G.S., Author of the Compendium of British Mining (published in 1843), *Gleanings among Mines and Miners*, &c.

The SIXTEENTH ANNUAL REVIEW OF MINING PROGRESS appeared in the MINING JOURNAL of December 31, 1859, and January 7, 1860. A FEW COPIES OF THE REVIEW OF 1855, containing Statistics of the Metal Trade, the Dividends and Percentage Paid by British and Foreign Mining Companies, and the State and Prospects of upwards of 200 Mines. Also a FEW COPIES OF THE REVIEW OF 1852, 1853, and 1854, MAY BE HAD on application at Messrs. WATSON and CUELL'S Mining Offices, 1, St. Michael's-alley, Cornhill, London.

Also, STATISTICS OF THE MINING INTEREST. By W. H. CUELL.

**WATSON AND CUELL'S MINING CIRCULAR,** published every Thursday morning, price 6d. or £1 1s. per annum, contains Special Reports of Mines, and the Latest Intelligence from the Mining Districts, from an exclusive resident agent; also, Special Recommendations and Advice upon all subjects connected with Mining, and interesting to investors and speculators. A Record of Daily Transactions in the Share Market, Metal Sales, and General Share Lists, &c. Edited by J. Y. WATSON, F.G.S., and published by WATSON and CUELL, 1, St. Michael's-alley, Cornhill, N.B. Messrs. WATSON and CUELL have made a selection of a few dividend and progressive mines, which they have reason to believe will pay good interest, with a probability, also, of a rise in value, the names and particulars of which will be furnished on application.

**INVESTMENTS IN BRITISH MINES.**—Mr. MURCHISON'S REVIEW OF BRITISH MINING for the QUARTER ENDING 30TH MARCH, 1861, with Particulars of the Principal Dividend and Progressive Mines, Table of the Dividends Paid in the last Five Years, &c., is NOW READY. Price One Shilling. At 117, Bishopsgate-street Within, London, E.C. Reliable information and advice will at any time be given on application. Also, COPIES OF "BRITISH MINES CONSIDERED AS AN INVESTMENT." By J. H. MURCHISON, Esq., F.G.S., F.R.S. Pp. 356, boards, price 3s. 6d., by post 4s. See advertisement in another column.

**COLLIERY EXPLOSIONS, AND A MEANS TO PREVENT THEM.** BY RICHARD HUGH HUGHES. A pamphlet replete with highly interesting historical narrative, and thoroughly business-like remarks, bearing upon colliery explosions and colliery ventilation. *—Mining Journal.*

London: F. Plummer, printer, 21, Great New-street, E.C.; and the Author, Atlas Safety Gas-Fitting Works, Hatton Garden.

**NEW PATENT ACT.**—Mr. CAMPIN, having advocated Patent Law Reform before the Government and Legislature, and in the pages of the *Mining Journal*, &c., now ADVISES and ASSISTS INVENTORS. The CIRCULAR of INFORMATION gratis, on application to the Patent Office and Designs Registry, 156, Strand.

## Notices to Correspondents.

**LIMITED LIABILITY.**—In answer to "Inquirer." In last week's *Journal*, if the company were to enrol itself with limited liability the liability of the present shareholders would, if they so stipulated, cease with the payment of the last debt incurred previously to the incorporation with limited liability; and by the Articles the directors could be restrained from calling for more than necessary to meet the expenses, and in case of infringement the shareholders could obtain redress against them, according to the nature of the offence. The Act gives protection to the shareholders as against the directors, but to do all this effectually and safely it would be necessary to be careful in the steps taken, and it would be prudent to employ a trustworthy solicitor to register the company, who would take care that the interests of the shareholders were carried out.—T. T.

**DUCHY OF CORNWALL.**—There is something hopeful in the fact that the Council of the Prince of Wales has not turned a deaf ear to the powerful appeals made in the *Journal* in reference to the management of the affairs of the Duchy. We hope that the same subject will be followed up, through your columns, until full justice is done to the Phoenix Company, and the pestiferous bogs of Dartmoor are turned into productive and profitable land, to which they can be easily converted, without expense to His Royal Highness, and to the great comfort and profit of those whose lands are now damaged by their baneful influence. We hope to see further articles from your correspondents upon this subject.—LOOKER-ON.

**PROSPER UNITED MINES.**—"A Shareholder."—If our correspondent be really a shareholder, we can scarcely think he would write us such a letter; he would not have made so many great mistakes, and he would naturally have written to the manager, or the purser, for an explanation of his imaginary complaints. The meeting held in July was not a "meeting of directors," but a general meeting of shareholders, duly convened, and the pamphlet was a detailed account of what took place, by a professional reporter. We wish this plan was more generally adopted at the meetings in Cornwall, for the benefit of the out-adventurers, who cannot attend. Our correspondent has quoted the depth drained below the adit on July 25 and Aug. 8 at "feet" instead of "fathoms," and it just so happens that the draining was necessarily suspended between those dates, as they could not drop the lift until they had completed the cutting down of the shaft, which took the above time. Our correspondent states that, according to his calculation, it will take a year from this time to see the 40. Now, if he will allow us to adopt the same mode of argument on the facts, we will show him a different conclusion. If the water were out 18 fms. on Aug. 8, with only one engine at work half the month, it would appear that it should be down at least 36 fms. on Sept. 8, and 40 fms. a few days afterwards, with two engines at work during the second period. But it must be remembered that there is a good deal more to do than merely working the engines—that alone will not take out the water. There must be pitwork fixed, and the shaft cut down, while the deeper they go there is more water to lift from the levels. In the report of the proceedings of the meeting we observe that the manager was asked how long it would be before they would get down to the 40? When he replied, "I think it will take a year from this time to see the 40," which must of necessity be secured as the water was drained from them. There might be little unforeseen impediments, but, without these, he hoped to get down to the 40 in three months—possibly in ten weeks; but it depended a good deal on the state of the levels, and on possible hindrances, which could not be foreseen." We advise our correspondent to be more careful in future, and avoid exposing his ignorance of his subject.

**GREAT WHEEL ALFRED.**—I have received a circular from Mr. E. Nicholls, one of the lords, wherein he calls attention to the wide difference in the reports made by Capt. Trelease, as compared with those of the agents, as to the amount required for further developing the 142 east—the former naming 50f., the latter asserting that it will require from 600f. to 700f. Surely there must be something wrong here. Also, does it not seem strange that the parties who wished to close the mine did not propose to raise the 11,000f. worth of ore before disposing of the machinery?—SHAREHOLDER.

**GREAT WHEEL ALFRED.**—I have received two circulars, with reports, from Mr. Richard Nicholls, who, I believe, is one of the lords, or represents a part of the eastern ground, to which he so urgently refers. Now, to keep on the mine, with a view to prove the eastern ground, and to incur the expense required there, even if a discovery could be made, with the present list of shareholders is absurd. Mr. Nicholls, of course, pushes it as much as possible, because it vitally affects his own interests. If he is so very anxious to work the ground, or get it worked, let him prove his opinion by buying 300 or 400 shares, and subscribing his part of the capital required to do so. It is all very fine for him to advise and press this point, when not a penny for the doing of it would come from his pocket, and if a discovery be made he would at once reap the full advantage.—A. H.

**GREAT WHEEL ALFRED.**—I should like to see on the statement of accounts a list of shareholders, and the amount (if any) of calls due by them. I should also like to know who gave that promissory note for calls? Also who that gentleman is who for so long has been a defaulter? The agent's quarterly report should also be described in such a way (not only in this mine, but in all mines) that a distant adventurer could, if he pleased, make and keep up a section on the mine; and why do not the agents send you their report of a later date so that the very latest news of the mine should appear in the *Journal* on Saturday?—A SHAREHOLDER.

**GREAT WHEEL ALFRED.**—I notice with regret a letter signed "J. T. Kevern," in last week's *Journal*. It appears to be principally directed against Mr. Hollow, who is very deficient in gentlemanly feeling and language, as well as showing a very narrow view of the matter. I know Mr. Hollow well, and I also know that about this mine and its business he has exerted himself a great deal; in fact, has been a most valuable member of the committee. He has several times come up to London purposely to attend the meetings, and must have been out of pocket thereby; and I have never before noticed any item charged for his expenses, in fact, I had not thought of it, considering, as a matter of course, that as a member of the committee, residing near the mine, his expenses would be paid. It seems so very paltry to refer to it, that it gives a character to the whole letter. I know a little about the mine, having been for a long time a shareholder, and I must candidly say my patience is all gone. I should have voted to stop long since, but having great confidence in Mr. Hollow, I wished to see it tried a little further under his supervision. The mine has been tried and "found wanting." As regards the general management, the first commencement was under Captain T. Richards, who, of course, had the placing of all the machinery and subsequent managements had to work the mine as they found it. The letter of a "Local Shareholder" is so very comprehensive that it looks forward to the spending of another 20,000f. or so. But speculation in a poor mine, already near 300 fms. deep from surface, with inefficient machinery, is a poor affair at best. I find that the tin is not increasing in quantity, but that the tin pitches are nearly all done, so that very little indeed is now being broken. It seems to me that all the re-workings of old GREAT mines have failed—reference to the list shows this. As to reports from independent agents, we have had them ad nauseam, and no benefit after all.—SHAREHOLDER: *City, Aug. 15.*

**GREAT WHEEL ALFRED.**—Amongst a large number of shareholders there will naturally be considerable diversity of opinion as to what should be done with a mine like one at Wheel Alfred, which has for years proved an unceasing drain on their pockets; it is unreasonable, however, in those who do not pay calls when due to complain when those who do so resolve not to support the concern longer. There is no doubt that the mine has been worked to great disadvantage for want of more machinery, but have the adventurers who complain of the resolution passed at the last meeting shown a readiness to provide their portion of the amount required to erect more machinery, and provide "the proper means," as they say, to work the mine more vigorously? The committee of management have repeatedly resisted the publicly-expressed wish of shareholders to stop the working, in the hope that the great majority of them would pay calls, and evince an earnest desire to carry on the operations in a more satisfactory manner, trusting, also, to the representations of the agents that the produce would pay the costs. Being disappointed in these expectations, they felt they had no alternative but to recommend the winding-up of the affair. If the writer of the letter signed "Justitia" will recur to what happened in the lead mine in Spain to which he refers, he may remember that the stopping of that promising concern was determined by a "committee of shareholders," unconnected with the board of management, and that the latter were forced to meet the wishes of the majority, while they believed 2s. 6d. per share, if thereabouts, if advanced, would have placed the mine in a paying condition. I think it must be partly the experience of "Justitia" that "committees of shareholders" often do more harm than good. All depends on the judgment, honesty, and temper of the men appointed whether their deliberations will prove judicious or the reverse. The committee of Great Wheel Alfred have directed the mine to be inspected and reported upon by, as they believe, one of the most competent and consci-

entious captains in the district. They hope to get his report for submission to the meeting on the 20th inst., at which all interested ought, if possible, to be present.—A. B. LAGUNASO SULPHUR AND COPPER MINING COMPANY.—"A. B. L." (Liverpool) had better apply for information to the secretary. Mr. Hopkins is not connected with the company; he only reported on the property, the system to be adopted, and the amount of capital required to render such an undertaking remunerative.

**EAST TAMESH.**—The committee issued a statement of assets and liabilities in their last circular to us, which, according to the fullest statement they could make out, amounted to 9000f. debit, present and prospective. Since that period ores have been sold amounting to 3000f.; and materials 1800f.—equal to 2100f., leaving 1200f. to our credit. Will some official be kind enough to inform us when we may expect a division of this sum?—A SHAREHOLDER.

**NORTH DOWNS AND WHEEL ROSE UNITED.**—"A Shareholder" complains of the management of this mine. He says—"In order to carry on the operations there is the following staff of officers:—A manager, one resident and one assistant agent, a local purser, and an auditor, whose salaries amount to about 40f. per month, besides two engineers and four doctors, though there is no engine working. Now, fellow-shareholders, ought we not to call a meeting and wind-up this affair, and put a stop to the heavy agencies, which are not required, and enforce such reforms as may appear necessary on obtaining a full explanation respecting our actual position and prospects?" Mr. Evan Hopkins is on his way to some of the mining districts of Ireland. Letters addressed Imperial Hotel, Sackville-street, Dublin, will find him.

# THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, AUGUST 17, 1861.

## AURIFEROUS STEEL.

A very remarkable invention, emanating from Mr. Wm. Longmaid, is at present attracting a large amount of public attention—his proposition being no less than to improve the quality of iron and steel by adding to it a certain proportion of pure gold, or of gold and platinum. As the subject of producing cheap steel is one of the utmost importance to the commercial world, we take the opportunity of publishing Mr. Longmaid's complete specification, an early copy of which we have just been enabled to obtain. Mr. Longmaid states:—

This invention has for its object the alloying of iron and steel with minute quantities of gold and platinum, thereby greatly increasing the strength and otherwise improving the quality of the metals so treated. The gold and platinum are combined when in a melted state with the iron and steel when they are in a melted state, or in the progress of their manufacture. Having thus stated the nature of my said invention I will proceed more fully to describe the manner of performing the same. I would state that I have found that gold or platinum may be used alone, or they may be used together. I would also state that a very minute quantity of gold or platinum, or of the two together, will produce a very marked and evident improvement in iron, and also in cast-steel, thus I have found that the use of from 3-16ths to 5-16ths of an ounce of gold or platinum, or of the two together, materially improves the density, ductility, and tenacity of the iron or steel. The most convenient mode of applying gold or platinum in minute quantities to melted iron or melted steel is first to cast small ingots of iron or steel, each containing a suitable quantity of gold or platinum, or of both those metals, for alloying a ton or other weight of iron or steel on which it is desired to set at one time. The gold or platinum is introduced into the ingot mould, then the melted iron or steel is run into the ingot moulds, and such ingots are introduced into the reverberatory or other furnace or vessel containing the melted iron or steel which is to be improved by the action of gold or platinum, or of both of those metals, and it will be found that when these ingots have melted and mixed with the iron or steel the gold or platinum will be diffused very intimately throughout the whole mass, and the gold or platinum, or both those metals, will consequently act on the whole mass as so to produce the desired beneficial results thereon. Or the gold or platinum may be otherwise introduced into the melted iron or steel, and in cases where gold is contained in quartz, or other minerals in ascertained proportions, the quartz or minerals may be employed without first separating the gold therefrom, and the same be used in the blast-furnace or otherwise. I would state that, with the exception of an alloy of iron for making bells, I have not found it desirable to introduce more than 1/2 ounce of gold or platinum, or of the two metals together, to each ton of iron or steel, though for special cases it may be hereafter found desirable to exceed these quantities. For bells I have employed as much as 3 ounces of gold with great advantage in getting a very sonorous metal. When preparing iron for ordinary castings I usually employ at the rate of about 1/4 ounce of gold or platinum, or of the two metals together, to 1 ton of cast-iron, but if I desire to make hard castings I employ up to, and even exceed, 1/2 ounce of the two metals, or of one of them. When puddling iron I introduce the gold or platinum (whether used directly or in an ingot, such as above mentioned) just as the metal begins to come to nature, and I employ at the rate of about 1/4 ounce to each ton of the pig or cast-iron used. The puddling process is then finished in the ordinary manner, and I apply gold or platinum, or both of those metals, in like manner when making puddled steel. When making malleable iron or cast-steel by other processes than by puddling I introduce the gold or platinum at any stage of the process whilst the metal is still fluid; or when making ordinary cast-steel I can melt the gold or platinum, or both of those metals, with the steel in crucibles or otherwise. In the above description I have given the precise quantities and proportions of gold and platinum which I prefer to employ, and I believe that the use of gold or platinum in much larger proportions will add to the expense without producing any material or proportionable advantages. I would, however, state that I do not confine my invention to the quantities or proportions above given, so long as gold or platinum are used in minute quantities to improve the qualities of iron or steel. I would here state that I am aware it has before been proposed to combine or melt gold and platinum with steel in order to obtain a compound metal consisting of steel and gold, or of steel and platinum, the gold or platinum being used in very large quantities in every case. I believe several pounds of gold or platinum to the ton of steel were used, but such efforts or experiments failed in producing any beneficial results; I, therefore, wish it to be understood that the peculiarity of my invention consists in applying gold and platinum in minute quantities in order to take advantage of the peculiar properties I have discovered that gold and platinum possess (when used in very small quantities) in improving the manufacture of cast and malleable iron, and also cast-steel.

**ALUMINIUM AND ITS USES.**—The SAFETY-LAMP.—At the recent meeting of the North of England Institute of Engineers, Mr. J. L. Bell, of Newcastle-on-Tyne, exhibited an improved safety-lamp, manufactured of fine aluminium gauze instead of that usually employed, the advantages being that the aluminium does not obstruct the light to the same extent as common wire, that it is incorrodible, and extremely light. Until Messrs. Bell Brothers introduced their process of manufacture the price of the metal prevented its application for any but experimental purposes, but now that a constant supply in the pure state can be ensured at 50s. per pound little difficulty will be experienced in using it even for such inexpensive articles as safety-lamps. Concerning the metal itself, it may be stated that Messrs. Bell Brothers have acquired such power over it from their continued experience that they are enabled to manipulate it as easily as the ordinary used metals. They have found that it melts at a temperature lower than silver, but not so low as zinc—the melting being performed in a common earthen crucible without flux; it can be beaten and rolled as thin as ordinary gold leaf, the only remarkable property being that it requires frequent reheating, owing to it quickly losing its temper. By a simple process it can be readily drawn into wire, but the reduction of diameter must be very gradual, and the re-heating very frequent. When fine wire is required this heating process becomes a delicate operation, for owing to the fusibility of the metal a comparatively small excess of temperature would reduce the whole coil to a liquid mass. Messrs. Bell Brothers contend that the metal is not affected by exposure to the air, or by any of the impurities usually present in the atmosphere of towns, a circumstance, we presume, which is the result of their improved mode of reducing the metal since Mr. Stephen Barker, of Birmingham, who was amongst the early manipulators of the metal found that spoons which he made from the metal turned black after a comparatively short exposure. The cause of this difference would, no doubt, afford an interesting subject for discussion, and it is probable that the definite settlement of such points as these would do much to secure the general adoption of the metal for industrial purposes. In the meantime it may be hoped that Mr. Bell's proposal to make aluminium safety-lamps will meet with an amount of success which will well repay him for the trouble he has taken in the matter.

**THE COPPER TRADE OF CHILI AND BOLIVIA.**—The following statement of the copper produce of Chili and Bolivia during the year 1860 is taken from a circular published by Mr. W. P. Robertson, of Valparaiso:—

	Fine copper.	Total.
From Chili for England .....	Qtls. 495,659	1,163,720
" Bolivia for England .....	48,825	215,394
" Bolivia for France .....	2,400	3,618
" Chili for United States .....	113,107	423,877
" Chili for Germany .....	9,445	32,372
" Chili for Belgium .....	6,357	20,475
" Chili for China .....	1,387	1,387
" Chili for Peru .....	141	141
Total .....	Qtls. 788,085	1,925,711
Exported from Chili, total fine copper .....	Qtls. 686,860	
Exported from Bolivia, total fine copper .....	51,225	
Increase in Chili of fine copper on 1858-59 .....	101,539	
Decrease in Bolivia of fine copper on 1858-59 .....	6,979	
Total increase of copper ores, &c., in Chili and Bolivia on 1858-59 .....	279,066	
Total increase of fine copper in ditto, 1858-59 .....	95,560	
Increase of all kinds .....	Qtls. 374,626	

The amount of freight paid on the shipments to England, at an average of 3l. 5s. per ton, would be nearly 225,000f., and on the shipments to the United States about 358,600f., taking 31f. as the average rate.

## THE MINERAL WEALTH OF CANADA.

THE RAMSAY LEAD MINES.

Every mail from Canada brings us additional information, now that public attention has been directed in that channel, regarding the recent discoveries of the vast mineral resources of that province. Our readers will recollect our report of the Acton Copper Mine, near Montreal, the first mining adventure east of Lake Superior, which attracted such general attention, not only in America but in England. The great success attending that working has led to other important mineral discoveries, the chief of which is the Ramsay Lead Mines, near Perth. The *Charlton Place Herald*, near which the mines are situated, says, in speaking of the village from which the mine takes its name—

All Ramsay now wants is enterprise and capital to make it a great mining district. All that have yet seen the mine agree that there is no other mine showing such favourable prospects at present. Such a lode is seldom to be seen; it can be traced on the surface for nearly 300 fathoms, averaging at its smallest from 2 to 8 feet wide; the spar on both sides of the vein looks well, and the lode carries a large quantity of gossan, which is always considered to be a sign of strength and richness. We understand the stopping within 2 fathoms of the surface has paid a net profit of 400 per cent. over working expenses. There is now no reason to doubt that in a little time the opinions of geologists and miners respecting the great wealth of this mine will be confirmed by the best of proof, a yield of metal giving large profits to the adventurers. It is worthy of remark that, in the opinion of Sir William Logan, the Ramsay lode is of the same age as the famous Rossie veins, that there is little doubt of its great depth—a depth to which, indeed, no certain limit can be placed.

The ore is galena, the richest and most profitable of all lead ores, and the assays which have been made in England show 80 per cent. of lead and 3-26 ozs. of silver to the ton. In the eastern townships the rage for "prospecting" still continues, and within the last few weeks another valuable copper mine has been discovered near Melbourne, about 40 miles distant from Acton. The want of local capital to develop the resources of this rich metalliferous region here led to the formation of a company in Montreal, of which Lord Aylmer is the Chairman, and the works are about to be pushed with vigour. The last mail brings advices of large fields of gold dust being discovered in the Saskatchewan Valley, Red River settlement, and of the exodus of a large portion of the population of the settlement to the scene of the discovery. With the daily increasing demand for mining labour which these discoveries necessitate, Canada now presents a fine field for the practical miner who desires to try his fortune in the western world. The principal economic minerals of Canada are stated by Sir William Logan, the provincial geologist, to be magnetic iron ore, specular iron ore, limonite (log ore), titaniferous iron, sulphurets of zinc (blende), sulphurets of lead (galena); copper, native, sulphurets of, variegated; copper pyrites; argenteriferous ditto, and containing gold; nickel; silver, with native copper and sulphurets of silver; gold. In connection with the above we desire to draw attention to the advertisement of the Grand Trunk Railway of Canada, which will be found in another column, and from which it will be seen that at the offices of the company, in London, maps of and pamphlets on Canada are given gratuitously to those seeking a home in that, the noblest colony attached to England's Crown, and also that every other information as regards passage, rates of freight, &c., can also be had on application, personally or by letter.

## REPORT ON CORNWALL AND DEVONSHIRE.

[FROM OUR CORRESPONDENT IN TREBURO.]

**AUG. 14.**—The recent discovery in Tolvadden has drawn some attention to the MARAZON district, which at present, on the whole, is really looking very well—better than it has been doing for some time. In TOLVADDEN the last level, the 60, had been poor, and things were looking gloomy; so much so that, having the engine-shaft down 7 fms. below the 60, it was decided to cross-cut at that point, without waiting to get down the full 10 fms. to see what the chances were. The experiment has proved successful, for a nice bunch of grey ore has been met with, just opposite the cross-cut, looking really like the top of a good course of ore, which it is certainly to be hoped will prove to be the case. A great deal of grey ore was raised at Wheel Neptune, adjoining, although scarcely at such a depth as the present point at Tolvadden. Still, there never was any reason whatever to apprehend that a mine which has produced so much ore shallow as Tolvadden has, and in such a district, was done up at 60 fms; there can be little doubt that the ground only requires vigorous opening up to make a productive mine for years. The practice of driving 7 fathom levels, however, is not one to be encouraged, particularly as there is a horse of some fathoms of hard ground between the flookan part of the lode, on which the shaft is going down, and the ore part of the lode, which, of course, entails considerable expense to cut through at every level. Circumstance at times, no doubt, render things of the kind necessary, and when they lead to a discovery like this they are worth their cost; but the practice of the best mining now is to drive 12 fathom levels, particularly in hard ground.

**WHEEL CHARLOTTE**, too, is looking very well, better than it has been for a very long time. Besides the fine course of ore in the shaft, the 50 east, driving towards Trebarrah, has intersected a fine run of ore ground, which seems to be entirely new, having no level under or over it. If the 60, which is coming up behind the 50, should catch this run of ore, it will be a very valuable thing. From first to last Charlotte has been a capital little mine—a mine which, if it had been worked fairly, and kept clear of those miserable squabbles which have made it so notorious, would have been one of the best paying little mines in the county. The case of the original shareholders, who were worked out of their property by means of all the gentry's contentions, is a very hard one.

**WHEEL GRYLLS**, also in the same district, has been a great success. The adventurers are now about putting up steam-stamps, when, if their returns continue anything like what they have been, they must have good profits. Besides all the tin that has been sold in the stone there must be large accumulations of low quality work, which will pay well to return when the stamps are up. During the late drop in the price of tin buyers have been very unwilling to bid for any but rich work, which they could be certain of returning promptly. Ordinary quality work, which they would readily have bought when the tin market was steady, they have been recently afraid to touch, in case of a fall before they could return it; so there must be considerable accumulations of tinstuff.

The most important mining concern, however, in this district is PROSPER UNITED. Two new 70-in. engines, with 20-in. lifts, are now forking the water here, working from 8 to 10 strokes per minute, and throwing up a river of water. The 20 will soon be dry now, at which point the lifts will be fixed, and the forking pushed on to the 40. It is hoped that this level will be reached by October, but this is necessarily uncertain, the shafts requiring so much cutting down. When the 40 is drained there will be, according to the reports, several ore ends to drive, and a great deal of tribute ground to work upon, so that large returns may be soon expected. The expenditure upon machinery and materials at these mines since their commencement has been large; but no one can go carefully over the works, see the quantity of water the engines are throwing up, and the rate of forking, without being quite convinced that this liberal expenditure is the wisest economy; indeed, to attempt to put up any slight work here would be to court failure; Capt. Richards, from his old experience of the mines, knew that, and has taken his measures accordingly. Besides the old mines, which are not very deep, and the large extent of shallow whole ground between Wheel Prosper and West Prosper, which was not explored by the Wheel Prosper adventurers in the last working for fear of letting in the West Prosper water upon them, an entirely new lode has been discovered in opening up a large drain. This has been called Mr. Chisom's lode, and is a very promising thing, and a great addition to the value of the property. It has been opened out on for a few fathoms deep, and is as pretty a lode as can be seen, producing beautiful gossan, mundle, and some copper ore. I should say this lode is safe to make a shallow bunch of ore, which will be a great help, as it can be easily worked, the lode being found to be drained by the drainage of the old mine.

The DOLCOATH adventurers, at their account on Tuesday, decided upon stacking half their tin for the present; this resolution, taken by the adventurers of such an important mine as Dolcoath, may induce other adventurers to do the same. Considering how influential and well informed the Dolcoath adventurers are, and who the committee are, their decision is not without significance; indicating that, in their opinion, the present depression is not likely to be permanent, but is only due to temporary causes, which more cheering prospects, such as a good harvest, or pacific news from America, may be expected any day to remove.

Within the last week I have had the opportunity of again carefully examining Mr. John Hunt's patent Separator, or ore jigging-machine, now at work at Wheel Penrose, near Porthleven. Of any machine for the same purpose at present in use, Petherick's Separator, which is used at Fowey and Par Consols Mines, is most like it, for in both the sieve is stationary, the water being forced up through it. But Mr. Hunt's machine



differs materially from Petherick's, in causing a never-returning flow of water upwards through the sieve; the water being forced up by a kind of pump, to which it returns again after passing through the sieve, so that the same water may be used over and over again *ad infinitum*. This seems to me a very important improvement over any similar machine at present in use. In the ordinary jigg-machine, and also, although in a less degree, in Petherick's Separator, the return of the water back through the sieve neutralises to a certain extent the separating effect of the specific gravity of the matters operated on, and forces certain particles to the bottom of, and even through, the sieve which otherwise would not get there. In Hunt's machine, on the contrary, the flow of water being always upwards, and there never being any returning backwards, the matters fall during the interval of each stroke by the effect of their specific gravity alone, undisturbed by any rush of returning water, by which a much more effectual separation is necessarily effected. It is some years ago since Mr. Hunt has completed his machine, but he has never yet brought it before the public prominently; I understand, however, that next year, at the Exhibition of 1862, he intends doing so, and having its merits fully tested. But although Mr. Hunt has thus failed to push his machine into general use it is yet by no means untied. In dealing with halvans, Mr. Hunt has been a most successful man, indeed by far the most successful man I know of in that line, and he attributes his success principally to the use of this machine. At Pont-pan Mine, at Bruz, in Brittany, he returned upwards of 30,000L worth of ore from halvans pronounced by the French mining engineers to be worthless, and he has had a like success in other underground workings of the same kind, so that in this particular branch he is a thoroughly practical and successful man. His improvements are not like those of too many patentees, mere speculative dreams, but the result of a daily experience during many years of dealing with poor halvan ores. Speaking of Mr. Hunt, I may just mention one thing. He is of opinion that, in treating ordinary work, there is no advantage in the round buddle over the ordinary rectangular buddle—rather the contrary. In very poor work he thinks it may be otherwise. Now, this is the opinion of almost all the leading agents in Cornwall, who won't adopt the round buddle; this opinion has by many been attributed to prejudice, and I confess that I have myself often been inclined to think so; but the testimony of so experienced and unprejudiced a man as Mr. Hunt is of considerable weight, as he can have no possible prepossession in favour of Cornish modes of working.

#### REPORT FROM NORTHUMBERLAND AND DURHAM.

AUG. 15.—The export Coal Trade, on the whole, appears to be in a flourishing condition, the total exports from the north-eastern ports during July having been 466,492 tons, against 381,212 tons in July, 1860, being an increase of no less than 85,280 tons. The whole of the ports, without exception, show a marked increase. The advance of the export trade will, therefore, tend in some measure to compensate for the comparative falling off in the coasting trade. The port of Blyth continues to increase its shipments rapidly, and Sunderland progresses most favourably. The cry for deep water in the Tyne waxes stronger; the great necessity for this is pretty generally felt and acknowledged at present, and will there be no doubt be supplied shortly. The Tyne Commissioners have effected great improvements since the commencement of their labours, and they certainly have plenty of work on their hands at present, including the carrying out of a most comprehensive scheme for the general improvement of the river; some little consideration ought, therefore, to be accorded to them. On the whole, the colliers of the district are pretty well employed, and are earning good wages. We have nothing of particular moment to record respecting any part of the district. At the Hartley Colliery the men got a little agitated lately on account of the critical position in which they are placed. At this steam coal colliery a large quantity of water is to be lifted, one of the largest pumping-engines to be found in the district being employed for this purpose. The shaft is not deep, and two lifts of pumps are employed, the lower one being 22 in. in diameter, and the upper one 30 in.; the engine cylinder being 80 inches, and one lift is placed at each end of the beam. At the extremity of the workings, to the south-east, is situated some old workings, expected to be holed into, and which contain a large quantity of water. The pressure of this water, and some feeders met with in the workings, caused the apprehension. Mr. Dunn, the Government Inspector, being on his rounds, the men communicated their fears to him, and he, after making enquiry into the circumstances, and a thorough inspection, had the satisfaction to report that every precaution was being taken by means of bore-holes in advance, &c., for insuring safety. In this district it has long been acknowledged that nothing but a rigid system of boring can ensure safety on approaching a drowned waste, even when plans are exact, as too much dependance ought not to be placed on the accuracy of those plans. It is, therefore, always necessary to prove the position of the old workings by boring in the first instance. And even by those means immunity from danger is not always secured, as the water sometimes escapes at faults, fissures, &c. This shows the very great care necessary to be taken in such cases. The Brockwell seam has been won at the Shildon Lodge Colliery; after much trouble and expense. This is a most important seam in the Auckland district; the successful achievement of this, therefore, must be highly satisfactory to the owners and all concerned. On Thursday, the 8th inst., the owners entertained the workmen and their wives to a substantial tea; about 180 sat down. The chair was taken by Mr. Jno. Vaughan, one of the owners. Mr. J. Marley, the consulting engineer, introduced the subject of the meeting, and the Chairman followed in a kind and feeling speech. Afterwards, interesting addresses from the Rev. J. Manly, of Shildon; Mr. A. L. Stevenson, mining engineer, and others, were given. Mr. Marley gave great credit to Mr. J. Coxon, the sinker, and regretted his and Mr. Spencer's unavoidable absence. The meeting broke up highly pleased with the evening's proceedings.

The late Mr. Losh, a gentleman who died lately on the Tyne, may be said to have been one of the fathers of the Tyne. He has been through a long life most intimately connected with the trade and commerce of the North, and more particularly with the establishment of iron-works, foundries, and chemical works. His career commenced no less than 70 years ago. He received his education in Paris, but being of an ingenious turn, and having a genius for mechanics and other sciences, he applied himself to those pursuits, and he was the first to establish chemical works on the Tyne, which have gradually enlarged until the present time. At a later period, in connection with the late Mr. Wilson and Mr. Bell, he established on a small scale the iron-works at Walker, which have since been extended until at the present time they assume most gigantic proportions. He, also, along with Mr. George Stephenson, applied himself in devising many improvements in rails, locomotives, and other similar apparatus. This was in the infancy of railways, and many of those improvements are due to the energy and ingenuity of Mr. Losh, one of the most remarkable of their inventions being the wrought-iron wheel for locomotives.

#### REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

AUG. 15.—The commercial prospects of the country are not very satisfactory, though the prospects of an abundant harvest is a subject for much gratification, and will, no doubt, have a beneficial effect on trade generally. During the past week the reports of the state of the Iron Trade are singularly confirmatory of the general inactivity which prevails throughout all the branches of the trade; indeed, at several of the principal works in Yorkshire and Lancashire the wages of the men are reduced 10 per cent., and in some cases only half time is being worked. The Steel Trade is very dull, and the difficulty of carrying on a trade with the States is such, on account of the irregularity in the receipt of remittances, that the whole of the men in the iron trade have had their wages reduced on account of the dulness of trade. The departments of the iron trade in which most business is being done are for rails and plates for ship-building. The Sheffield merchants appear to be devoting a large amount of enterprise towards the cultivation of this particular branch of the trade, and they bid fair to gain a reputation as high as the one they have obtained for the manufacture of railway springs, which is in great measure confined to Sheffield. (Messrs. Whitmore and Co., the iron merchants of Liverpool, have failed, their liabilities being reported at 80,000L. Their creditors are principally confined to South Staffordshire and Lancashire. It is believed that the critical position of American affairs has much to do with this stoppage.)

The Coal Trade is comparatively in a much more satisfactory position than the iron trade, though the depression in manufactures generally must have seriously lessened the consumption. The most noticeable feature connected with the trade is the largely increased supply of hard coal for steam purposes. The production in Derbyshire of late years has been more than doubled, and, notwithstanding this increase, the demand is quite equal to the supply. In Lancashire and Yorkshire the trade is very dull, and there are few orders in hand. The half-yearly reports of the different railways have just been issued, and although there is a general falling off in the traffic receipts for passengers and merchandise, there is a steady increase in the receipts for minerals, particularly on the Midland; the increase on that line being nearly 6000L for the half-year.

As an evidence of the increasing good feeling between the coalowners and the colliery inspectors, it is gratifying to record the presentation, by the coalowners of West Lancashire and North Wales, of a testimonial to Mr. Peter Higson, the Government Inspector for the district. An appropriate inscription was engraved upon the testimonial, which was presented at a dinner given at the Adelphi Hotel, Liverpool, at which Mr. A. Hewlett, Jun., occupied the chair. Mr. Higson's acknowledgement of the compliment was extremely well received, and certainly reflected much credit upon him from the manner in which he accepted it—"as a mark of good-will towards him, but not as calculated to induce a feeling of friendship which would prevent him from continuing to do his duty as impartially as he had always heretofore endeavoured to do it." The health of Mr. John Lancaster, who has been the means of introducing into the district many of the most valuable and important improvements in connection with colliery engineering, was likewise drunk, and Mr. Lancaster having acknowledged the compliment, several other toasts were given, and the meeting separated.

The late colliery inundation at Clay Cross has excited universal sympathy for the proprietors, and the widows and children who have suffered by the disaster. A public meeting was held on Friday, at Chesterfield, presided over by the mayor of the town, and most influentially attended. The speeches were full of sympathetic feeling, and the proceedings were marked by something more substantial, in the form of a public subscription. The proprietors of the Clay Cross Works gave 500L; Mr. Barrow, of the Staveley Works, gave 50L, and most of the neighbouring coal and ironmasters gave 50L each, which made up a subscription in the room of about 850L. The men employed at the Clay Cross Works also held a meeting on the following day, and it resulted in a subscription of about 160L. There is no doubt but that a much larger sum will be obtained, and that under the direction of the committee the widows and children will be amply and permanently provided for.

The late dry weather has been most favourable for the miners of the Peak, and a steady progress is being made in the district. At present there is nothing of material importance to write about. The North Derbyshire Mining Company are pushing forward with the new shaft to get to the vein; the Mill Town are not yet under the tondstone; and the Mill Dam are getting a tolerable quantity of ore. Some of the shareholders have

been surprised at being called upon for further capital, but as we are not in the secret of all the details of management we are not in a position to give an explanation. The other mines are much in the same position as last noticed, and nothing doing in shares.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

AUG. 15.—The Iron and Coal Trades of this district cannot be reported as in a prosperous state. There have been scarcely so many orders received in the past as in the previous week. At the same time, orders continue to come in at the leading iron-works, which are sufficient to keep a large portion of the machinery in tolerably active operation. The demand runs chiefly upon heavy samples, and for iron of reliable brands. Very little iron has been turned out in South Staffordshire during the week, because most of the workpeople have been keeping holiday at the Wolverhampton races, and for their position in life there are few men who are fonder of the excitement of the race and a wager upon it than the ironworkers and colliers of South Staffordshire. Few of the works recommenced work before this (Thursday) morning.

A few failures have occurred by which the iron trade in this part of the country will be unfavourably affected. By the failure of Messrs. Whitmore and Co., iron merchants, of Liverpool, for about 80,000L, some ironmasters in both divisions of this county will be losers, but the losses it is expected will fall upon firms who can bear them. The stoppage of Mr. T. H. Oswald, iron shipbuilder, of Sunderland, with liabilities estimated at from 60,000L to 70,000L, will result in a somewhat heavy loss on one South Staffordshire firm, but, happily, as in the other failures, no serious results are anticipated. A number of makers whose concerns are of no great magnitude are creditors to Mrs. Elizabeth Tildesley and Son, iron merchants, of Willenhall, who have petitioned the Birmingham Bankruptcy Court, and have obtained protection. The liabilities are reported at 17,000L, and an offer of 5s. in the £1 is made. The creditors have appointed a committee of their number to inspect the books, and report to a future meeting. For good pigs makers and their agents are firm at the rates which regulated the sales of yesterday, but for inferior descriptions of North Staffordshire make low prices are accepted.

The Coal Trade in the manufacturing department is dull; and the demand which had begun to spring up for household samples a fortnight ago is not now so perceptible. The Hardware Trades are not so well off for orders as they were a week ago; nor is any improvement looked for in the country trade until after harvest. The fall of 3d. per ton in the price of tin is not expected to stimulate purchases, so badly off for orders are the tin-plate makers generally. Many of the works in the general manufacturing trades had not recommenced work after the races on Thursday night. Much satisfaction is felt among persons who for some time have been occupied, and not unprofitably, in the mining districts of East Worcestershire and South Staffordshire, in improving the moral tone of the working classes there, that some twelve magistrates, headed by Lord Lytton, the Lord-Lieutenant of Worcestershire, have addressed a letter to the *Times*, denying the accuracy of the startling statement which is made in the report of Mr. George Cooke, one of the assistant commissioners appointed under the Education Commission, to the effect that "every magistrate assured him that it was held rather a shame to a young woman not to have a bastard child." The 12 magistrates referred to say "Mr. Cooke is personally unknown to a large majority of the magistrates, and we positively deny having given him any such information. His statement in this respect is quite untrue, and we consider such charges against the working classes to be totally unfounded." We concur with Lord Lytton in believing that the assistant commissioner could hardly have meant them, or supposed that they could be understood literally, for, as his lordship remarks, "so understood can hardly be applicable to any part of any Christian country."

#### THE IRON TRADE—FURNACES IN AND OUT OF BLAST.

Continued from last week's Mining Journal.

Districts.	Furnaces.	In.	Out.
Birtley Iron Company, Birtley Ironworks	1	2	1
Bell Brothers, Wylam	1	1	0
Bell, Hawks, and Co., Wear	1	1	0
Jarrow Iron Company, Jarrow	4	2	0
Jarrow Iron Company, Wallsend	2	2	0
Losh, Wilson, and Bell, Walker	5	3	2
Morrison, James, Ferry Hill	12	2	0
Pattinson, H. L., and Co., Felling	2	0	2
Washington Chemical Company, Washington	1	0	1
Total	21	13	8

#### LANCASHIRE AND CUMBERLAND DISTRICT.

Harrison, Ainslie, and Co., Newland, Bush Darrow	2	2	2
Duddon, Lorn	1	0	1
Kirkless Hall Hematite Company, Kirkless Hall	4	3	1
Lonsdale, Earl of, Seaton	1	0	0
Lewis, Edwin, Harrington	1	0	1
Schneider, Hastings, and Co., Ulverston Hematite Iron Works, Barrow	16	4	2
Whitehaven Hematite Iron Co., Whitehaven Hematite Iron Works	3	3	1
Workington Hematite Iron Co., Workington Hematite Iron Works	16	4	2
West Cumberland Hematite Iron Company (Limited)	2	0	4
West Cumberland Hematite Iron Works	1	0	0
Total	30	16	14

#### YORKSHIRE DISTRICT.

Bowling Iron Company, Bowling	6	5	1
Beale, S., and Co., Holmes	2	2	0
Beale, S., and Co., Parkgate	2	0	0
Coopers and Co., Worsbrough Dale	1	0	1
Dawes, W. H. and George, Elsecar, near Barnsley	3	2	1
Dawes, W. H. and George, Milton, near Barnsley	2	2	0
Farnley Iron Company, Farnley	4	3	1
Hird, Dawson, and Hardy, Low Moor	9	6	3
A. Harding and Co., Beeston Manor	12	2	0
Newton, Chambers, and Co., Chapeltown	2	0	2
Newton, Chambers, and Co., Thorncliffe	2	2	0
Whitby Iron Company, Beck Hole	2	0	2
Total	36	25	11

#### SOUTH WALES DISTRICT.

Aberdare Iron Company, Aberdare, Glamorganshire	3	0	3
Aberdare Iron Company, Glyn Neath, ditto	3	0	3
Aberdare Iron Company, Aberdare, ditto	3	0	3
Bailey Crawshaw, Aberaman, ditto	3	3	0
Briton Ferry Iron Company, Briton Ferry, ditto	2	2	0
Booker, T. W., and Co., Maesteg, ditto	2	2	0
Brogden and Sons, Tondy, ditto	2	2	0
Crawshaw, William, Cyfarthfa and Ynysfach, ditto	11	11	0
Crawshaw, Francis, Trefores Iron and Tin Works, ditto	3	0	3
Dowdall Iron Company, Dowdall, ditto	18	15	3
Forman, W. H., Pen-y-darraig, ditto	7	0	7
Gadlys Iron Company, Gadlys, ditto	4	3	1
Hill, Anthony, Plymouth, ditto	10	10	0
Llewellyn and Co., Banwen, ditto	2	0	2
Llynvi Vale Iron Company, Llynvi Vale, ditto	4	3	1
Leon, R. P., and Co., Maesteg, ditto	4	1	4
Parsons, William, Onllwyn, ditto	12	1	1
English Copper Company, Cwm Avon, Oakwood, ditto	7	4	3
Talbot, T. M., Cefn Cwae, ditto	2	0	2
Vaughan, N., Venat, ditto	2	0	2
Ystalyfera Iron Company, Ystalyfera, ditto	11	5	6
Bailey, Crawshaw, Esq., M.P., Varteg, Monmouthshire	2	0	2
Bailey, Crawshaw, Esq., M.P., Golonoes, ditto	3	0	3
Bailey, J. and Co., Nantyglo, ditto	12	12	0
Blacynavon Iron Company, Blacynavon, ditto	6	6	0
Ebbw Vale Iron Company, Aberystwyth, ditto	4	2	2
Ebbw Vale Iron Company, Ebbw Vale, ditto	4	2	2
Ebbw Vale Iron Company, Pentwyn, ditto	2	0	2
Ebbw Vale Iron Company, Sirhowy, ditto	4	2	2
Ebbw Vale Iron Company, Victoria, ditto	4	2	2
Levick and Simpson, Blaia, ditto	2	2	0
Levick and Simpson, Cwm Celyn, ditto	2	2	0
Levick and Simpson, Coalbrook Vale, ditto	2	1	1
Pontypool Iron Company, Pontypool, ditto	4	4	0
Rhymer Iron Company, Rhymer, ditto	9	6	3
Roper, R. S., and Co., Cwm Bran, ditto	1	0	1
Tredegair Iron Company, Tredegair, ditto	2	1	1
Amman Iron Company, Bryn Amman, Carmarthen	2	1	1
Harrison, Frederic, Trimsaran, ditto	2	1	1
Watney, Daniel, Gwendraeth, ditto	2	1	1
Bailey, J., and Co., Beaufort, Brecknockshire	7	6	1
Crawshaw, Francis, Hirwain, ditto	4	0	4
Parsons, William, Abercave, ditto	1	1	0
Powell and Co., Ciydach, ditto	4	3	1
Yniscledwyn Iron Company, Yniscledwyn, ditto	6	2	4
Pembroke Iron and Coal Co., Kilgetty Iron Works, Pen.	2	0	2
Total	207	125	82

#### NORTH WALES DISTRICT.

Brymbo Iron Company, Brymbo, Denbighshire	2	2	0
Gandy, W., Leeswood	2	0	2
Giller, Samuel, Plas Issa	1	0	1
Jakes, Joseph (late), Ponkey	1	0	1
New British Iron Company, Knabon	3	1	2
Sparrow and Poole, Frod	2	1	1
Dollydd	2	0	2
Rhos Hall	2	0	2
Trydon	1	0	1
Total	15	4	11

#### BLAST FURNACES IN SCOTLAND.

Addie, Robert, Esq., Langloan, Lanark	6	6	0
Baird, William, and Co., Gartsherrie, Lanark	10	14	0
Baird, William, and Co., Eglington, Ayr	8	8	0
Baird, William, and Co., Blair, Ayr	8	8	1
Baird, William, and Co., Lugar, Ayr	4	0	4
Baird, William, and Co., Muirkirk, Ayr	3	3	0
Bell, Robert, Esq., Wishaw, Lanark	2	0	2
Coltness Iron Company, Coltness, Lanark	9	0	0
Christie, Alexander, and Co., Lumphinnans, Fife	1	0	1
Carron Iron Company, Carron, Stirling	4	4	0
Christie, C. and A., Gladsburn, Haddington	1	0	1

\* Blowing another out now. † Building a third. ‡ Charcoal iron.  
 † Two not yet lighted. ‡ One out only for repairs. § Two new.  
 \*\* Just finished building. †† Cold blast. ‡‡ Average 50 tons a week anthracite coal.

Districts.	Furnaces.	In.	Out.
Dallmellington Iron Company, Dallmellington, Ayr	5	4	1
Dunlop, Colin, and Co., Clyde, Lanark	7	7	0
Dunlop, Colin, and Co., Quarter, Lanark	2	0	2
Dixon, W., Esq., Govan, Lanark	6	3	3
Dixon, W., Esq., Calder, Lanark	8	6	2
Forth Iron Company, Forth, Fife	7	6	2
Lochgelly Iron Company, Lochgelly, Fife	4	0	4
Merry and Cunningham, Gt. Glasgow, Ayr	9	9	0
Merry and Cunningham, Ardross, Ayr	4	4	0
Merry and Cunningham, Cambuslang, Lanark	4	4	0
Miller, G. and J., Devon, Clackmannan	2	0	3
Monkland Iron and Steel Company, Monkland, Lanark	9	9	0
Portland Iron Company, Portland, Ayr	5	3	2
Russell, James, and Son, Almond, Linlithgow	3	2	1
Shotts Iron Company, Shotts, Lanark	5	3	2
Shotts Iron Company, Castlhill, Lanark	3	0	3
Stewart, Robert, Esq., Omoa, Lanark	4	3	1
Wilson, Wm., and Co., Kinmel, Linlithgow	4	4	0
Wilson, John, Trustees, Dundee, Lanark	8	3	5
Wilson and Co., Summerlee, Lanark	3	0	3
Nithsdale, Ayr	3	0	3
Garscube, Lanark	2	0	2
Total	174	125	49

#### REPORT FROM MONMOUTH AND SOUTH WALES.

NEWPORT, CARDIFF, AND SWANSEA, AUG. 15.—The Risca colliers resumed work on Thursday without submitting to the attempted reduction. The company have a contract, by which they are obliged to supply a given quantity of coal in a certain time; and as the prolongation of the strike would necessarily interfere with the fulfilment of the contract, Mr. Palmer, the manager, wisely gave way on the question of prices, but he very properly insisted that the brattices should be put up by men employed for the purpose. The colliers have always been in the habit of putting up their own timber in the Risca Collieries, as well as through the South Wales coal field generally, and this is the first successful attempt to introduce the North of England practice in this respect. Mr. Palmer, in insisting upon this point, was chiefly influenced by the opinions thrown out during the late inquest, when it was clearly proved that the colliers often neglected to carry on their brattices as they ought to. Although the colliers have agreed to go in for the purpose of coal-cutting only, yet they do so at an advantage, for they receive the old price, and are relieved of the bratticing. Lanark work has now been resumed, it is to be hoped that both masters and men will continue to agree, and that prosperity will once more dawn upon Risca.

The Coal Trade generally is in a brisk condition, and there is no lack of orders. Vessels are scarce, and this, to some extent, operates prejudicially on the trade. The Coalbrook and Broad Oak Collieries, Loughor, have just been bought by a company consisting principally of Newport gentlemen. The collieries have two seams of coal—bituminous and steam, and the produce is now conveyed by the South Wales Railway for shipment to Swansea. It is in contemplation to construct a tramway from the collieries to Loughor, in order that the coal might be shipped there. The collieries are now worked by a slant, but the proprietors intend to sink two shafts, which will enable them to develop the resources of their property more fully; and when this is complete it is expected that about 200,000 tons a year will be raised. Mr. A. S. Palmer has been appointed manager by the latter company.

On Thursday a great demonstration took place at Pontypridd, on the arrival of Mr. G. W. Lennox, proprietor of the Ynyssygynhar Works. Mr. Lennox and his family have been in the habit of spending the summer at their residence near the works, but this year their visit was delayed in consequence of the unfortunate accident which befell Mr. Lennox. The popular proprietor and his family received a warm reception.

On Saturday, the inquest was held at Llangenech, before Mr. J. Jones, deputy coroner, touching the death of John Phillips, a lad about 14 years of age, who was killed on Thursday, at St. David's Colliery, by a train of coal running over him. He had his right arm broken, and his skull was fractured. Every assistance was immediately rendered to him, but death resulted almost immediately. The jury returned a verdict of "Accidental Death."

The lead mines of Langan, near Cowbridge, have lately been purchased by Mr. Humby, of Kingsland, London, who intends to vigorously proceed with the works. A company has just been formed under the title of "The Redwas and Ruddy Coal and Patent Fuel Company," for the purpose of working the Redwas vein of coal, near Caerphilly. The produce will be sent to Newport for shipment over the new branch of the Rummy line. Another company has been formed with the view of further developing the rich coal district of Aberystwyth, Glyn Neath. Messrs. Rees and Co. have hitherto worked the coal with considerable success.

The Llynvanner iron ore mine, situated at Llantrissant, together with the adjoining land, containing 36A. 12n. 24p., were offered for sale at the Cardiff Arms Inn, by Mr. Thomas Watkins, as was also the plant, &c., used in carrying on this valuable hematite mine. The property is held under a lease of 60 years, from Mr. M. W. Harris, and the mine is subject to a royalty of 1s. 6d. per ton. The capitalists of this district did not, however, appear disposed to offer what was anticipated, and after a somewhat sluggish competition, the property was bought in for, we believe, 18,000L. The land is at present in the possession of Mr. R. E. Spencer. It is obvious, from the indications shown, that mineral property in Llantrissant and neighbourhood is rapidly advancing in value, as the resources of the place are becoming yearly developed, and as facilities for working the minerals are being obtained. The place is obviously destined, and that at no distant period, to be a great centre of activity as a mineral and labour market.

The number of blast-furnaces now in operation in the neighbourhood of Merthyr is as follows:—Dowlais, 13; Plymouth, 10; Cyfarthfa, 10; Pen-y-darraig, 0. There are out of blast at Dowlais, 5; Pen-y-darraig, 6; Plymouth, 1; Cyfarthfa, 1.

#### MINING IN AUSTRALASIA—MONTHLY SUMMARY.

MELBOURNE, JUNE 25.—We have had an extremely dull month in mining, and until last week it bore a very gloomy aspect; escort after escort continuing to arrive, each showing a large falling-off, as compared with the same period last year. However, a change for the better occurred during the past ten days, a temporary supply of rain having enabled the diggers to wash up a considerable quantity of stuff, which had accumulated during the dry season. The escort returns for this month, as compared with the same time last year, are—

June 7	50,875 ozs.	1861.	37,192 ozs.
June 14	31,699 ozs.	1860.	47,439 ozs.
June 21	54,628 ozs.	1861.	51,717 ozs.

The total quantity for the years are—1860, 964,822 ozs.; 1861, 888,863 ozs.; showing a deficiency for the year of 75,959 ozs. It has been said that a far larger quantity of gold reaches Melbourne by private hands than was formerly the case; and that when the returns for the six months' shipments are made up, it is expected those of the current year will exceed those of the first half of 1860, as they will include the large parcels under engagement in the *Seizure*, the *Water Nymph*, and the royal mail steam-ship *Jeddo*. On May 28 the vote of 75,000L. for the purpose of supplying the gold fields with water was agreed to; and it is to be hoped this sum will be vigorously and judiciously laid out, so as to afford an adequate supply of water during the whole of next summer, since that will contribute more to the prosperity of our mining population, and keep up the annual yield of gold. Another subject of vital importance to the advancement of the colony, especially as a mineral-producing country, is the introduction of assisted emigration, which we have so strenuously heretofore advocated. At the first mine of this desirable object has been taken, 1500 free tickets were sent by last mail, 1500 go by the *Jeddo*, and about the same number will be available by the next mail.

The Glips Land gold fields are steadily progressing in extent, and we have just received intelligence from there of the finding of the first large nugget, weighing 58 ozs., on a tributary of the Nicholson River. These are, like the Upper Goulbourn diggings, mostly only adapted for a scattered population, but they are now collectively supporting



we have not yet cut the south wall of the lode in either the middle or the deep adit, though we are driving on each level with six men. The other parts of the mine continue as last reported. Since my last report I have sent 70 tons of ore to the port, and have now about 240 tons at surface, which can be cleaned up to a high percentage. The ore raised from this mine alone to date is above 600 tons, taken out of 250 fms. of ground, dead levels included, and we can, I think, take 200 tons more from the backs above the deep adit, as far east as we have gone. We must now drive the deep adit east, to open more ore ground.

**NORTH RHINE.—June 26:** Captain Barker reports:—I have the pleasure to inform you that the lode in the 43, south of Cope's engine-shaft, on the main lode, has greatly improved in the last few fathoms, so that it is at present a large ore lode, although the ore is of a low percentage. It is very likely the lode will make rich for copper at the next level, for it appears that the 43 is driven on the top of the ore, therefore I have suspended the driving of the above and for the time, or until the engine-shaft is sunk to the 60, and the above lode cut at that level; then we shall be able to work that part dry.

**WORTHING.—June 21:** We are in a position to raise a large quantity of ore monthly. Ore sampled during the past month about 130 tons. We have a large quantity of dredge ore on surface to crush and dress. As to the smelting operations, the clay is very thick and cleaner from metal, according to my examination, than it was before. We intend to work three furnaces next week—a calciner and two reducing furnaces: these furnaces are capable of reducing 60 tons of raw ore per week. As to the mine, I believe we are in a position to make it pay well according to the ore we have laid open throughout the mine. During the past year we have dressed from 600 to 700 tons of ore, and have a large quantity of ore now at grass ready for dressing. We believe now that our two furnaces working our monthly statements will have special interest as showing an increasing and a very great improvement in our returns, and that our profit will be according to our next annual meeting. 47 tons of regulus had been shipped via Melbourne, and 35 tons of a better quality than usual were at the port ready for next vessel.

**ENGLISH AND AUSTRALIAN COPPER.—June 25:** There were eight furnaces at work, besides refineries. The stock of coal at the works was 1641 tons, and of fuel 4813 tons. The quantity of coal at Kapunda was 2128 tons. The company's operations were proceeding very satisfactorily.

**WHEAL ELLEN.—June 24:** There is not much alteration in the mine since the last report.

**PORT PHILLIP AND COLONIAL GOLD.—The ore crushed in six weeks** was 4082 tons, yielding 3133 ozs. 12 dwts. 23 grs. gold, or an average of 15 dwts. 8 grs., the yield having decreased in the last fortnight to 12 dwts. 17 grs. per ton. The receipts on Clunes account were for six weeks, 5418l. 15s. 7d.; expenditure, 2615l. 7s. 9d.; profit on six weeks, 2803l. 7s. 10d. The machinery was in good working order. A remittance of 1500l. has been received by this mail.

**DUN MOUNTAIN.—June 8:** Contracts have been signed for the earth-works and bridges of the remaining seven miles of line, with seven working parties, and the price will be 30 per cent. under Mr. Dorrpe's estimate, or a saving of 5660l. The time for the completion is two months for the three lower sections, and three to four months for the remainder.

**BON ACCORD.—June 25:** The Chairman of the committee writes, I have, in company with Mr. A. Scott and Mr. Alfred Hallett (a gentleman of great experience in mining matters in the colony, and in a semi-professional capacity), inspected all the workings at the lower levels. Mr. Hallett was very particular in his examinations, and has given a lengthy report, with which I agree almost entirely, and the shareholders may rely upon its being an unvarnished one. Captain Jeffery expresses himself much more strongly than Mr. Hallett as to the probabilities of cutting a paying lode at the 50, to which we are fast approaching. The following is an extract from Mr. Hallett's report:—"Reviewing the above details, I am of opinion that the Bon Accord Mine will be what is termed a deep mine, that from the change in the character of the lode at the 40, accompanied with a change in the ground, and from the settled nature of the rock now being sunk through in the engine-shaft, you have a right to expect the lode to present a more decisive character on its being cut at the 50, as well as the nature of the lode being so uniform in character, as shown in the driving north on the lode at the 30 fathom level."

**SCOTTISH AUSTRALIAN.—June 20:** Good Hope Mine: Dickson's shaft was down 26 fathoms, leaving 4 fathoms further to be sunk before the lode could be cut by driving at the 30. Arrangements are being vigorously pushed on to commence operations on the 2500 tons of coal-bearing land leased by the company, known as the Wallersley Estate, situated about 5½ miles direct west from the port of Newcastle, New South Wales, on the south side of the Great Northern Railway, in that colony. The superintendent has had for some time under consideration, and by the present mail informs the board that he has concluded arrangements for the acquisition by lease on royalty of a remarkable mineral property of 564 acres, known as the Oak Creek Copper Mine, in the county of Bathurst, New South Wales, 40 miles from the town of that name. He thus writes respecting it:—"I had formed favourable expectations with reference to this property, but, on inspection, I found a much greater show of mineral wealth than anticipated. At the same time, the prominent features of the formation were strikingly in accordance with the description Captain Dailley gave me of the same at St. Austell in 1858, which description I then took down and now have by me. What arrests attention as a surface appearance is a large mass of ironstone, which, on further examination, appears pretty clearly to be the back of a masterly lode running in an easterly and westerly direction. The ground falls a little towards the creek which has given the name to the property, close to where the above massive deposit or formation of ironstone shows itself, so as to permit of an adit having been driven along the course of the lode. This adit has been carried in to the extent of 10 or 12 fathoms. It passes through various shoots of copper ore, embedded in gossan of the richest and most favourable character. Captain John accompanied us with a pick, and he broke ore in places in the sides, top, and bottom of the adit, along its whole course. At about three-fourths of its length from the mouth a winze has been sunk to the depth of about 8 feet, and into this we went and saw ore (and rich ore) broken from the bottom of it. We saw 100 tons of ore, some of it very good, which had come out of the adit and winze. The breadth of the lode we believe to be no less than from 35 to 40 feet. Near the wall of the lode furthest from the adit, and nearly on the level from which that has been driven, a shaft has been put down to a depth of, I believe, 20 feet. The adit and the shaft together, one being in the neighbourhood of one wall and the other of the other, seem to afford most encouraging evidence of the existence of a powerful and productive lode, from which it may be anticipated that considerable quantities of copper ore may be very early and profitably obtained. I must indeed candidly state the board that I have seen nothing to which I can prepare this company, except the Barra and the Kapunda, in South Australia. I would on no account speak in disparagement of the Good Hope, but I must admit that the Oak Creek lode, from its superior breadth of ore-bearing ground, it may be said in sight, gives warrant for a more certain expectation of immediate productivity than the other. . . . The ores that have been obtained from the Oak Creek lode are principally carbonates and oxides, the only ore containing sulphur which it has yet produced being that composite one, grey ore."

**REDUCTION OF COPPER ORES.—The Adelaide Observer** of June 26 contains a very favourable notice of Mr. Henderson and his patent for the treatment of poor copper ores, a description of which appeared in the Journal during Sept., Oct., and Dec. The writer concludes:—"Supposing all that is expected of Mr. Henderson's process to be verified by experience, its importance to this colony can scarcely be overestimated, especially coming into action, as it does, just at the time when it is to be presumed that thousands of tons of poor ore will be turned up which would not pay for working by our ordinary processes, but which may be rendered highly remunerative by this. Anyone who has seen the heaps of refuse ore at the Barra Barra Mine will comprehend the value of such a discovery as Mr. Henderson's to the shareholders of that important concern; and at Wallaroo, at Mount Barker, and at Kapunda, its application will not be less important."

**NOVELTY IN FIRE INSURANCE.—The recent decision of the fire insurance companies to increase the rate of premium payable upon the insurance of property against fire has been met in a way which was probably not at all anticipated. A meeting of merchants, brokers, and other citizens, was held at the Mansion House, and a committee was appointed to consult with the combined fire insurance offices, relative to the newly-fixed rates, and this committee has decided upon the establishment of an independent company—the Commercial Union Fire Insurance Company—with a capital of 2,500,000l., in 500,000 shares, one-tenth of which only—50,000 shares—is intended to be called up, so that nine-tenths of the nominal capital will remain as a guarantee fund. The board comprises twenty-two of our respectable names as could be brought together. The grounds upon which the promoters conclude (and as the promoters are the directors themselves, and all practical business men, it may be presumed that their conclusions can be relied upon) that a new and independent company was required is, that the old companies have taken undue advantage of an exceptional calamity to impose excessive rates. The grand object of the new company is to be a strict classification of risks upon the equitable principle that each risk shall be made to pay for itself. One class of insurers will, therefore, no longer be compelled to pay for others. With these aims there have been combined on the board the representatives of two or three leading houses in each of the various walks of business, and others have yet to be added. The company thus starts with a considerable amount of business secured, and as more liberal arrangements than are now obtainable upon floating and short-time policies are promised, it cannot be doubted that the undertaking will receive ample support.**

**SMOKE-CONSUMING FURNACES.—Captain F. J. Chéry, of the Imperial Engineers, Paris, provisionally specified an invention which has for its object improvement in steam-boiler and other furnaces, whereby the heat and gases evolved from the fuel are more perfectly consumed than in furnaces of the ordinary construction, and by supplying the fuel in small quantities, and igniting it on the upper surface as it enters and progressively advances into the furnace, a great saving of fuel is effected. For this purpose it is preferred to mount the fire-bars in a frame supported on wheels, on which it can move to and fro on a tram or railway into and out of the ash-pit, and part of the series of fire-bars forming the fire-grate are capable of moving a short distance to and fro on the frame independently of the other half of such bars, each series being composed of alternate bars; at the front or entrance to the furnace an iron plate is fixed just above the surface of the fire-bars, and from it a vertical plate rises, which forms part of a chest or hopper to receive the supply of coal or fuel, which is forced into the furnace in small and regular quantities by a sliding ram or feeding instrument, which is caused to slide to and fro at the bottom of the chest or hopper as the fire-bars alternately recede and advance, thus feeding and distributing a small charge or quantity of fuel, which is forced by a sliding ram from the bottom of the hopper under a fixed plate on to the fire-bars. The gas evolved from the fuel thus introduced is ignited and consumed by coming in contact with a stream of heated air passing over the surface of the fuel, the air being conducted through a pipe or passage placed under the fire-bridge to a chamber in front of the furnace; ignited fuel is thus brought in contact with that which is in a state of incandescence, and is gradually consumed through the furnace by the movement of the fire-grate to the back part, where currents of cold air from the ash-pit are admitted near the bridge to perfect the combustion.**

**PREPARATION OF CLAY.—An invention has been patented (but the patent has been permitted to lapse) by Mr. Chamberlain, of the Sandford Estate Pottery Works, Wareham, Dorset, which consists in the preparation of the clay in the sagg after it has been mixed, and while in a thick liquid state, technically termed slip, the purpose of depriving it of its superfluous moisture, so as to render it fit for the potter. Various systems have been introduced for this purpose with more or less advantage, but they are objectionable on the score of expense. Mr. Chamberlain prepares a tank having a layer of plaster of paris over its bottom, into which tank the slip is poured; this tank is in connection with any convenient exhausting apparatus; the plaster of paris readily absorbs the superfluous moisture from the clay, whilst the exhausting apparatus being put into operation will again exhaust or deprive the plaster of paris of the water drawn from the clay; or, in place of exhausting the moisture, it may be driven off by the introduction of hot air.**

## Meetings of Mining Companies.

### KELLY BRAY MINING COMPANY.

An ordinary general meeting of proprietors was held at the offices of the company, Austinfrasers, on Thursday.—MR. JOHN FIELD in the chair.

Mr. E. KING (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts, up to the end of June, showed—

Balance last audit .....	£ 17 6 10
April mine cost, merchants' bills, &c. ....	445 11 7
May ditto .....	427 0 1
June ditto .....	407 7 0 = £1297 5 6
Sales of ore .....	£789 0 8
Calls received .....	486 4 11 = 1275 5 7
Leaving debit balance .....	£ 21 19 11

The CHAIRMAN said that before reading the report of the agent he might, perhaps, mention that the committee had thought it advisable to take a second opinion with respect to the prospects of the eastern mine, and had, consequently, engaged Capt. W. Rich to inspect the mine, who, it would be seen, to a certain extent confirmed the statements made by their own captain, although he did not, perhaps, entertain quite so sanguine an opinion as to its prospects.

The report of the agent was then read, as follows:—

Aug. 13.—The 125 west has been communicated with the pitch in the bottom of the 115 by a rise, which has drained the bottoms, and also very much improved the ventilation, and instead of the ore being drawn up to the 115 by manual labour, it comes down to the 125, and is drawn to surface by the steam-whip. Here we have many fathoms of ore ground laid open, which is working by four men, at 10s. in 17, tribute, and the men are earning fair wages. In the 75 east we have sunk a winze on the pitch in back of the 85, which has laid open tribute ground, and also given good ventilation in both levels—the 85 and 75. We have again resumed the 75 east, in which the lode is 2 ft. wide, yielding 1 ton of ore per fm., worth 5l. per ton. Since the 125 has been holed to the pitch in back of the 115 we have put the same pair of men to drive the 55 east, in order to get under the ore ground which was driven through in the 45 east, and many hundreds of tons of ore returned. The lode in the before-named end is about 1 ft. wide, composed of quartz, munde, blende, and stones of copper ore, and the ground is easy for exploring—set at 6l. per fm. The tribute department is looking somewhat more encouraging than it hitherto has.—**Eastern Mine:** The lode in the 70 east is about 1 ft. wide, yielding occasionally stones of ore; a much more promising lode than was found in the level above, carrying well-defined walls, and embedded in a congealed stratum, which is easy for exploring—set at six men, at 6l. 15s. per fm., one month stent. Our idea is to push on the above end with all speed, in order to get east under the ore ground which was driven through in the 60, about 20 fms. ahead, but we calculate to meet with the same run of ground before we get so far east in the 70, for the reason the ore ground dips west towards the shaft. We have commenced a winze in the 60 east, about 33 fms. east of cross-cut, and west of the bottom of the ore passed through in the 60, in order to discover the run of ore ground as we proceed in depth. The lode in the above winze is 2 feet wide, and in the eastern end of it there is a branch of ore 6 inches wide, dipping west, which we hope shortly will be all the length of the winze, if so, we shall be opening valuable ground, the ore being of a rich quality. In the past quarter the 60 fm. level has been extended east about 13 fms., and is now east of shaft about 60 fms., in which the lode is split into two parts at present, and looking at the unsettled state of the ground, we judge there is something not far ahead, either the elvan course or a cross-course. The above-named end has been driven upwards of 30 fms. over several good bunches of ore, which have been discovered in the bottom of the drive, so that there is every reason to expect good results in the 70, the ground being of a congenial character for the production of rich copper ore. I estimate the cost for the coming quarter will be about 400l. per month, and the returns from 60 to 70 tons of ore per month; but if there is a course of ore met with in the eastern mine, the quality will be much better than it hitherto has been. The machinery is all in good working order.—S. JAMES.

The report of Capt. Rich stated the prospects at the old mine were not very cheering. The SECRETARY then read a note which had been received that morning from the agent, to the effect that the lode in the winze sinking from the 60 to the 70 had improved, and had been set to sink at 10s. in 17.

The CHAIRMAN having moved the adoption of the report and accounts, A SHAREHOLDER thought, from the report of Captain Rich, it appeared quite clear that the old mine was not worth a very great deal. He was of opinion that the ore ground should be taken away, when it would be a matter for future consideration whether the pitwork ought to be pulled up. From the statement of the agent, which was borne out by Captain Rich, the eastern mine was one of considerable promise; and it was evident, as the lode was nearing the granite or elvan course, some rich deposit of ore would be discovered. He, therefore, thought the operation at that point should be pushed on with vigour.

The SECRETARY stated that the greatest economy was being exercised in the carrying out of the various operations, and he trusted before another meeting that some good results would be met with in the eastern mine. From the letter of Capt. S. James, it would be seen that the winze had been set to sink from the 60 to the 70, which the men had taken for 12 ft., at 10s. in 17. Since then the lode had improved, evidently showing that the 60 was upon the top of a long run of ore. From the box of ore which had been sent up from the mine, it appeared that the ore was of an improving produce, which would tell materially upon their samplings. He considered that the winze would throw great light upon the value of their property. Generally speaking, the elvan "makes" either above or below the lode, but when it ran nearly parallel with the lode large deposits of ore were generally discovered.

Mr. STEELE enquired if the lode ran perpendicularly or obliquely? The SECRETARY said there was a slight underlie. It was the opinion of Capt. James that it dipped westward, in which case it approached nearer to the cross-cut; and Capt. Rich recommended the driving of the 60 for 10 or 15 fathoms.

Mr. RECHARDS thought it could not be but satisfactory to the proprietors to know that both their agent and Capt. Rich spoke very favourably of the eastern mine. They attached great importance to the fact that they were approaching the granite and the elvan course.—The report was then received and adopted, and the accounts passed and allowed. A call of 2s. 6d. per share was made.

The committee were re-elected, and the auditor was re-appointed.

A vote of thanks to the Chairman was passed, when the proceedings terminated.

### WHEAL GRENVILLE MINING COMPANY.

An ordinary general meeting of shareholders was held at the company's offices, George-yard, Lombard-street, on Wednesday.—MR. W. H. CUELL in the chair.

Mr. J. WATSON (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts, made up to June, showed—

Balance last audit .....	£ 164 14 8
Calls received .....	1969 11 1
Copper ore sold .....	288 9 10 = £2422 15 7
April mine cost .....	£ 343 2 2
May ditto .....	314 10 4
June ditto .....	318 0 8
Merchants' bills .....	852 19 8 = 1828 12 10
Leaving credit balance .....	£594 2 9

The balance of liabilities over assets was 1018l. 7s. 6d.

The report of the agent was read, as follows:—  
Aug. 13.—The engine-shaft is sunk 10 fms. 1 ft. below the 100; during the last 7 or 8 fms. sinking we have been on the north part of the lode, which is nearly 18 in. wide, of quartz, peach, and good stones of yellow ore. The character of the lode appears to have changed, and the iron entirely gone; we have about 4 ft. further to sink for a fork, &c.; afterwards we intend cutting through the lode; upward there were branches of ore going in that direction, which we shall immediately prove; sinking by nine men, at 30l. per fathom. The 100 is extended east of the shaft 35 fms. 3 ft.; the lode being about 18 in. wide, composed of quartz, peach, and stones of ore; the ground by its side being of an easy white granite; altogether from this vantage point any miner would say it was quite congenial for ore; during the last 9 or 2 fms. we have met with a strong stream of water flowing from the south side, and we are now engaged cutting in south to see if there is any more lode in that direction; driving by four men, at 3l. per fm. The 100 is extended west of the shaft 31 fms. 2 ft.; the lode in that distance varying from a few inches to nearly 2 ft. wide, composed of times of very good grey and black ore, with quartz, &c.—A kindly lode. About 4 ft. behind the end we have put up a rise 5 fms.; the lode in like manner varying from a few inches to 18 in. or 2 ft. wide, laying open tribute ground; raising by four men, at 7l. per fm. The 90 is extended east of the shaft 53 fms.; the lode nearly 18 in. wide, of quartz, &c., with good stones of ore. About 2 fms. behind the end we have put up a rise 3 fms.; the lode is about 18 in. wide, of quartz and gossan; raising by four men, at 10l. per fm. The 90 is extended west of shaft 54 fms.; the lode is about 10 in. wide, of munde and stones of yellow ore, letting out a quantity of water; driving by two men, at 8l. 10s. per fm. At 29 fms. east of this end we have sunk a winze upon the rise from the 100, 4 fms.; the lode is 18 in. wide, of peach and stones of ore—a promising lode; and as soon as this is communicated we expect to set some more pitches; sinking by four men, at 5l. per fm.; we have two pitches working in this level, by six men, at 10s. 6d. and 13s. 4d. in 17. The 80 is extended east of the shaft 47 fms. 3 ft.; the lode is nearly 18 in. wide, of gossan and quartz—a kindly lode; driving by four men, at 6l. 10s. per fm. The 80 is extended west of the shaft 74 fms.; the lode being, generally speaking, small, but it being entirely in a solid ground to the surface should be prosecuted; driving by two men, at 5l. 10s. per fm. We have a pitch working in the back of this level, by two men, at 13s. 4d. in 17. The 80 cross-cut is extended north of the main lode 32 fms. 2 ft., which is about 3 fms. beyond Watson's lode, and it is 18 fms. 3 ft. from the perpendicular of the run of East Grenville lode at the surface, consequently, after deducting the underlie, that lode cannot be much before it. In the present cross-cut there is an elvan, and when we bear in mind that to the south of East Grenville lode in that mine there is an elvan, it looks indeed very favourable for our approaching it; and, again, seeing that there must be other lodes traversing this sett to the north, we have no hesitation in stating that we consider this to be indeed a first-rate speculation. The distance from the end to the boundary is about 37 fms. 3 ft.; driving by six men, at 13l. per fm. We have a pitch working in the bottom of the 66, on Watson's lode, by two men, at 10s. in 17. We think, judging from the pitches, &c., that the men are earning fair wages. The flat-rad shaft, sinking upon the East Grenville lode, is sunk 14 fms.; the lode being in two branches; the south one is nearly 18 in. wide, composed of quartz and prlan, and which is dipping towards the north one, so that at their junction which will be in about 3 or 4 fms., we may expect a change. Now, at East Grenville, where we cross-cut the lode (about 16 fms. deep), the lode did not look at all more promising than it does here, and seeing the change that took place at the 25, at this mine, again, we think, very favourably for this being found to be similar; sinking by six men, at 8l. per fm. We sampled during the last quarter 42 tons 17 cwts. of ore. From the appearance of the ground in the 90, both east and west of the shaft, we expected, and which was the universal opinion of every one who inspected the mine, that the 100 would have shown a much better appearance, when our sampling would have been very much more; we cannot speak definitely as to the exact quantity we shall raise in the coming quarter, but we will do our best. The number of hands employed is—underground on tutwork, forty men, on tribute, ten; and at surface, including engine-men, &c., ten men, two boys, and six girls. The engine and machinery are working satisfactorily. In conclusion, we beg to say that, seeing the very promising features that this mine has presented from time to time, and also from what the mines to the east of this have done, with the chances of intersecting other lodes, it fully justifies vigorous prosecution.—G. R. OGDEN, W. BENNETT.

The CHAIRMAN having moved the adoption of the report and accounts, The SECRETARY, in answer to an enquiry, stated that at the last special meeting there were 15 shares forfeited, which reduced the number of the shares upon which calls are now being paid to 5935.

Mr. WESSLES thought that, as the machinery had been erected and paid for, their expenses should be materially reduced.

The SECRETARY said the labour cost of the past three months had been heavier than usual, on account of the expenses attending the erection of the engine-shaft of the whin.

Mr. GOELING enquired at whose recommendation the new shaft had been commenced? The CHAIRMAN replied that it was in accordance with the recommendation of the company's agent, and decided by the committee.

Mr. WESSLES said he was strongly of opinion that their operations should be confined to the sinking of the main shaft, and the extension of the western levels.

The SECRETARY reminded the meeting that he had for a long time advocated the suspension of some of their operations, but he frankly told the proprietors that, if they determined upon stopping the new or flat-rad shaft, they would stop one of the most important points which the mine presented.

The CHAIRMAN said he understood the committee had fully deliberated upon the question of the costs, with a view to their reduction, and that they were of opinion certain points of operation should be suspended.

The SECRETARY, in answer to a question, stated that all the mines in the neighbourhood, without a single exception, had made ore shallow. At South Frances they began to make ore at the 60; but that property was situated upon higher ground.

A plan was produced, by which it was shown, according to the bearing of the lode, that the Grenville flat-rad shaft would intersect the same lode as that seen in the shaft at East Grenville; it also showed the 80 cross-cut north was not far behind it. These were considered by the meeting as most important points, such as would be before the next meeting throw great light upon the value of the property.

Mr. WESSLES certainly considered the report satisfactory, and he contended it fully verified his opinion that the main shaft should be prosecuted with vigour, the more especially since a favourable change had taken place in the character of the ground.

The SECRETARY, in answer to a question from Mr. Goeling, stated that since the last meeting there had been incurred an additional expenditure—such, for instance, as the cost of building a new whin-engine and boiler-house, &c.—of about 500l. The merchants' bills alone had amounted to 596l., but, according to the estimate of their capital, during the current quarter they would not exceed 460l. The construction of the whole of the buildings had been taken by tender.

Mr. WILCOX said there had been several recommendations to continue operations in the western end, and the question was whether it would not be advisable to suspend some of the other points of operation.

The SECRETARY, in answer to an enquiry, stated that the new flat-rad shaft was 90 fms. east of the old shaft. He considered it one of the most important points in the mine.

Mr. GOELING strongly advocated the sinking of the engine-shaft, and the extension of the deeper levels—for instance, the 90 to the 110. He was induced to suggest the adoption of that course from the fact mentioned in the agents' report—that in the engine-shaft the iron had been replaced by yellow ore.

The SECRETARY said he thought the present intention of their agent was to prove the lode in the 110 previous to sinking the engine-shaft to a greater depth.

Mr. WESSLES did not think it would be politic to suspend operations at the 80 cross-cut north, as there appeared to be such excellent prospects of soon cutting the lode at that point. The report having been received and adopted, and the accounts passed and allowed, it was unanimously resolved that the operations of the mine be for the present confined to sinking the shaft at the 110, driving the 90 and the 110 west, the 80 cross-cut north, to cut the East Grenville lode, and the sinking of the flat-rad shaft. All other tutwork operations to be at once suspended.

A call of 4s. per share having been made, a vote of thanks to the Chairman was passed.

The CHAIRMAN, in acknowledgement, thought they had good reason to hope and believe that before the next meeting some satisfactory result would be realised, which would prove their property to be of that intrinsic value which they had been led to suppose would be the case, both from the indications it had from time to time presented as also from the district in which it is situated.—The proceedings then terminated.

### NORTH MINERA LEAD MINING COMPANY, 1860.

The quarterly meeting of shareholders was held at the company's offices, Crown-court, Threadneedle-street, on Monday.—MR. J. W. WILLIAMSON in the chair.

Mr. C. W. W. THOMAS (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed—

Balance last audit .....	£ 21 4 5
Ore sold .....	896 17 3
Calls received .....	797 2 9
Bankers' commission and interest .....	1 2 3 = £1716 6 8
March mine cost, &c. ....	£489 15 6
April ditto .....	432 6 3
May ditto .....	346 8 8
June ditto .....	340 17 3
Sundries .....	28 10 6
Directors' fees .....	42 0 0
Amount paid on account of Deep Level Mine ..	22 12 1
Bankers' commission, &c. ....	6 2 0 = 1708 10 3
Leaving credit balance .....	£ 7 16 5

The balance of assets over liabilities was 4110l.

The CHAIRMAN said that the last report received from the mine appeared in the *Mining Journal* of Saturday last, which had doubtless been perused by the shareholders with interest and satisfaction. He was glad, however, to state that Mr. T. P. Thomas was present, who would furnish the meeting with every fact connected with the company, both as regards its present and its future position. It was with the greatest pleasure he informed proprietors that nothing could be more satisfactory than the last account from the mine—commercially and financially. They had a balance of assets over liabilities of 4110l., and the whole of their pumping, crushing, and drawing-machinery had been erected, and the mine was now in an efficient working condition. Everything was paid for, and the mine itself was as rich as it well could be. Hitherto the only drawback had been a doubt with respect to the scarcity of water, but by the plan at present being adopted they were looking to the lower valley for any quantity of water that might be required. The mine at the present time was quite capable of returning 50 tons of ore per month, and they believed that quantity could be gradually increased. But assuming their returns to be 50 tons per month, at 12l. per ton, that would realise 600l., and estimating their cost at 300l. per month, their capital being 10,000 shares of 1l. each, there would be left for dividend about 35 per cent. upon the year. As they had the advantage of the presence of Mr. Thomas, he would ask that gentlemen to detail to the meeting the actual position and prospect of the undertaking. He could not, however, conclude his remarks without congratulating the shareholders upon the improved position of their property.

Mr. T. P. THOMAS said it was with no small pleasure he informed proprietors that since the last meeting considerable improvement in the mine had taken place. The last occasion he had the pleasure of meeting proprietors he stated they had met with a splendid course of ore, since which not only had that been developed, but they had discovered two other courses of ore, which were capable of producing 6 to 7 tons per fm. In fact, he was of opinion that those flats of ore extended all over the sett. Since their last meeting they had sold 120 tons, and there were now remaining on the surface about 60 or 70 tons. He hoped in future to sell about 50 tons per month, and he thought at their next meeting—or at least during the present year—they would be in a position to declare a dividend. He fully contemplated that during the next twelve months they would raise about 60 tons per month, which he estimated would be produced for about 300l. per month. If the present discoveries continued productive, it would become a question whether they should not increase their returns. At present they were unable to return any mine ore, but the erection of the buddies were being prosecuted with all dispatch, when their returns would be considerably increased. Indeed, in another six or eight months he thought they would be in a position to advise the shareholders to return a very much larger quantity of ore; for his part, he did not think it advisable to return in one month, perhaps, 100 tons, and 20 tons the next, it being much better to gradually, and at the same time permanently, increase their returns. They had gone through a hard bed of chert, which had been unproductive in the engine-shaft, and they had now got the same thing in Charles's shaft. They had, therefore, for the present determined to suspend Charles's shaft, because it was quite unnecessary to sink two shafts in the same kind of ground when one shaft would prove and develop its value. So long as they kept opening new ground so long would their property continue to increase in value. He could not express his opinion that Pugh's shaft would open up as rich a mine at the depth as Wilson's had done, and even much richer. With regard to the water, he might inform the meeting that a water-wheel was in course of erection down the river, which, when completed, would give a permanent and regular supply of water for working the whole of the machinery on the mine. He confessed that the property had already surpassed his most sanguine expectations, and congratulated the shareholders upon possessing a mine the intrinsic worth of which was but partially known.

Mr. WEGUELL having been elected director in the room of Mr. May, resigned, the meeting was made special for the purpose of passing a vote of thanks to the Chairman, which was passed, and the proceedings terminated.

### GREAT BRIGGAN MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Great Winchester-street, on Monday. MR. JAMES EVES in the chair.

The CHAIRMAN said that as the object of the meeting was to consider the financial affairs of the mine, perhaps the purser had better inform the meeting in what position they are at present were.

Mr. GOATLEY thought that would be most readily explained by saying that the financial position of the company was the same as at the previous meeting, with the exception that one cost-sheet had been added. No calls had been since received. The last cost-sheet had been paid by an advance obtained from Messrs. Tweedy, Williams, and Co., the bankers, and the cost-sheet due on Friday, which would amount to about 260l. or 270l., was altogether unprovided for.

Capt. F. PRYOR thought he might here take the opportunity to make a few remarks. It was the last time they met, after some discussion, that the meeting should be adjourned, to give him an opportunity to investigate the accounts, and he was there to discuss a few questions relating to them.

The CHAIRMAN presumed by this that Capt. Pryor's investigation had not proved satisfactory.—Capt. PRYOR said it had not. There were several things in the accounts, but he forebore to go into them—he would state that he was prepared to leave the accounts to any gentleman to go into—that is to say, any man acquainted with mining accounts, and he was prepared to substantiate all that he said.

The CHAIRMAN understood that the last meeting was adjourned for Captain Pryor







# THE CENTRAL SNAILBEACH MINING COMPANY (LIMITED).

Capital £10,000, in 10,000 shares of £1 each.  
Deposits, 2s. 6d. per share, payable at Messrs. Locke and Co.'s, Bankers, Shrewsbury, upon application, which will be returned if no allotment be made to the applicant.  
For detailed prospectus, see *Mining Journal* of July 14.  
Prospectuses, copies of the report, and plans of the sett, with further information, may be obtained from Mr. J. M. J. DAVIES, or Mr. RICHARD WARDMAN, all of Snailbeach, Shropshire; Messrs. PHILLIPS and DARLINGTON, 26, Gresham-street, London; or from the undersigned, to whom all applications for shares are to be made. Early applications are requested.  
SAM. HARLEY KOUGH,  
Aug. 7, 1861. Shrewsbury and Church Street, solicitor to the promoters.

# EAST WHEEL MARTHA MINING COMPANY (LIMITED).

Capital £15,000, in 6000 shares of £2 10s. each.  
8s. per share to be paid upon application, and 4s. upon allotment. All future calls not to exceed 8s. per share, and not often than quarterly.  
DIRECTORS:  
GEORGE SEARBY, Esq., Crown-court, Threadneedle-street, London.  
EDGAR WILLIAMS YARROW, Esq., 14, Arundel-square, London.  
JAMES LANE, Esq., 44, Threadneedle-street, London.  
T. C. HAWKINS, Esq., 9, Broad-street, Oxford.  
THOS. COOPER SMITH, Esq., Warfield-court, Thromorton-street.  
BANKERS—London and County Bank.  
SOLICITOR—Frederick Wm. Snell, Esq., 1, George-street, Mansion House, London.  
AUDITORS—Messrs. Cooper Brothers and Co., 13, George-street, Mansion House, London.  
CONSULTING AGENT—Mr. C. Joseph Richards.  
SECRETARY—Mr. E. Evans.  
OFFICES—23, MOORGATE STREET, CITY, LONDON, E.C.

The object of this company is to purchase and work the mineral ground lying between the Devon Great Consols and the Great Wheel Martha.  
There are few instances of mining where success would appear to be more certain than in this case, as this mine is situated west of the Devon Great Consols, and east of the Great Wheel Martha. The success of the former mine is too well known to the public to require much comment, but it may be stated that it has returned in dividends nearly £1,000,000, on an original capital of £1024. The Great Wheel Martha Mine is one of the most successful instances of an old mine being reworked, the company having sold in a few months more to the amount of nearly £2500, and having at the present time about 1000 tons of ore broken and being prepared for sale, while the reserves in the different levels amount to more than 6000 tons, and there is no doubt the mine will soon commence paying good and lasting dividends. All this is the produce of one lode only, which has held continuously from the upper to the lower level, and is now in the bottom level 16 ft. wide, a fine course of ore. This lode is by practical men considered to be a continuation of the Devon Great Consols lode, and as the East Wheel Martha Mine is situated exactly between the two mines, there cannot be any doubt of this mine having the same lode running through the entire length of the sett, from east to west; and there is one great fact to be borne in mind, that the levels at Great Wheel Martha are driven east the lode becomes; and as the lode is dipping east and passes through this property, there can be no doubt of the mine proving as rich as its neighbours.  
This mine will be drained to a considerable extent by the Great Wheel Martha, as the levels in that mine approach it eastward, a fact of the greatest importance as regards the expenditure and development of the mineral wealth contained in this property.  
This mine has been worked and a large capital expended by a previous company, but having sunk their shaft down in a valley, where they were inundated with water from the higher ground above them, they were compelled to stop. They had just discovered that they had sunk their shaft too far south to cut the Devon Great Consols lode, which passes through the high ground, and making great exertions by driving a level thence to the lode, but without success, and as the lode is dipping east and passes through this property, there can be no doubt of the mine proving as rich as its neighbours.  
Arrangements have been made with the present proprietors for the purchase of this property, the proprietors to receive 2500 shares, free of all calls, and £1500 in cash, the latter to be returned to this company by an allowance out of the dues as the ores are raised and sold. This return to be made is a fact of importance, proving that the proprietors have every confidence in the mine making large returns, and bringing them in a large revenue.  
Application for prospectuses and plans to be made to Mr. E. Evans, 23, Moorgate-street, London.

The following is a report from Captain Joseph Richards, who, being connected with the underground workings at the Devon Great Consols, must be well acquainted with the run of the lodes and their connection with this property, and quite capable of giving an opinion on the future prospects of this mine.  
Aug. 3, 1861.—I beg to hand you my report on this mine. It is situated directly east and adjoining Great Wheel Martha, where large returns of copper ore are being made, and the Devon Great Consols is in a direct line east of East Wheel Martha, so that this mine may be considered to be a very first-rate position: the great lode of Wheel Martha must run directly through the sett, as well as several other lodes of very great promise. There have been shafts sunk and levels driven in East Wheel Martha, and although they cannot now be seen until the water is in fork, I am assured that the prospects were such underneath as might be fully expected from the very great and good appearance of the lodes at surface. I am fully justified in highly recommending East Wheel Martha as a mining property of very much more than ordinary value as a speculation, and I am of opinion that those who may invest therein will have no cause to regret it, but, on the contrary, have every reason to congratulate themselves on the advisable selection of this extensive and exceedingly tempting property as an investment, containing as it does the necessary elements of success. In addition to the very fine appearances of the lodes themselves, there are cross-courses and intersections thereof, with the lodes attendant on which are often found the most splendid and valuable courses of ore. I will conclude by advising you to commence operations as soon as you can manage to do so, and I am exceedingly sanguine of the results proving in every way all I have said and intended to convey relative thereto. If you will refer to my report on Great Wheel Martha of Oct. 3, 1859, you will perceive that the results are bearing out what I then said of that property, and in East Wheel Martha you have a mine the prospects of which are not exceeded in my belief in any mine in the two counties, and I unhesitatingly advise all and every one who can take an interest therein.  
JOSEPH RICHARDS.

# FORM OF APPLICATION FOR SHARES.

Shares £2 10s. each. Deposit on application, 5s. per share.  
To the Directors of the East Wheel Martha Mining Company (Limited).  
GENTLEMEN,—Having paid £ to your credit at the London and County Bank, Threadneedle-street, City, I request that you will allot me shares in the East Wheel Martha Mining Company (Limited), and I hereby agree to accept such shares, or any less number that may be allotted to me, subject to the provisions of the Joint-Stock Companies Act.  
Name .....  
Address .....  
Date .....

# DODDS' IRON AND STEEL PATENT LICENSING COMPANY (LIMITED).

This company is PREPARED TO GRANT LICENSES on moderate terms for the USE of their PATENT for STEELING RAILS, POINTS, CROSSINGS, MACHINERY, and EVERY DESCRIPTION of IRONWORK.  
The process, which is exceedingly reasonable in cost, and gives the most extraordinary durability to the material, has been highly approved of by the following gentlemen, firms, and companies, several of whom have extensively adopted the valuable improvement:—  
ROBERT STEPHENSON, Esq.  
JOHN BOURNE, Esq.  
J. FERRING, Esq.  
THOS. E. HARRISON, Esq.  
THE GREAT INDIAN PENINSULA RAILWAY COMPANY.  
THE NORTH-EASTERN RAILWAY COMPANY.  
Messrs. STEPHENSON AND CO.  
THE EAST LANCASHIRE RAILWAY COMPANY.  
THE GREAT NORTHERN RAILWAY COMPANY.  
THE MIDLAND RAILWAY COMPANY.  
THE METROPOLITAN RAILWAY COMPANY have ordered a large quantity of rails by this process.  
THE FOLLOWING FIRMS ARE PREPARED TO EXECUTE ORDERS under the company's patent:—  
Messrs. S. BEALE AND CO., PARK GATE, ROTHERHAM.  
Messrs. DODDS AND SON, ROTHERHAM.  
Messrs. LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE.  
THE EBBW VALE COMPANY, SOUTH WALES.  
Messrs. LEVICK and SIMPSON, NEWPORT, MONMOUTHSHIRE.  
Messrs. LLOYD, FOSTERS, and CO., WEDNESBURY.  
THE ISCA FOUNDRY COMPANY, NEWPORT, MONMOUTHSHIRE.  
Applications for Licenses can be made to R. COCKE, Esq., at the company's offices, No. 7, St. John-street, London, E.C., where also testimonials and other information may be obtained.

# INCORPORATION OF STEAM BOILERS.—EASTON'S PATENT BOILER FLUID EFFECTUALLY REMOVES AND PREVENTS INCORPORATION IN STEAM BOILERS, WITHOUT INJURY TO THE METAL, WITH GREAT SAVING IN FUEL, and with LESS LIABILITY TO ACCIDENT FROM EXPLOSION. It is used by Her Majesty's Steam Shipbuilders, Woolwich Arsenal, Honourable Corporation of Trinity House, Tower of London, India Store Department, by the principal Steam Packet Companies of London, Liverpool, Southampton, Hull, &c., and by engineers, builders, railway companies, and manufacturers throughout the country. Testimonials from eminent engineers, boiler makers, and manufacturers, with full particulars, will be forwarded on application to P. S. EASTON and G. SPRINGFIELD, sole manufacturers and patentees, Nos. 37, 38, and 39, Wapping-wall, London, E.

AGENTS IN GREAT BRITAIN:  
Aberdeen, Mr. James F. Wood.  
Aston-under-Lyne, Mr. S. G. Fielden.  
Belfast, Mr. W. T. Matter, C.E.  
Birmingham, Mr. Adam Dixon.  
Chester, Mr. W. A. Rowland.  
Devonport, Mr. Cornelius Boulds.  
Dublin, Mr. Wm. Fih.  
Fosse, Mr. W. B. Harvey, Chemist.  
Glasgow, Mr. W. Muir.  
Hartlepool, Mr. W. T. Cheesman, West.  
Hull, Messrs. A. L. Fleming and Co.  
Leeds, Mr. J. C. P. Westwood.  
Leicester, Mr. Benjamin Pochin.  
Liverpool, Mr. J. McInnes.  
Manchester, Messrs. Morris and Sutton.  
Nottingham, Mr. G. D. Hughes.  
Oldbury, Mr. C. Tongue, Chemist.  
Southampton, Mr. Joseph Clark.  
Southsea, Mr. T. Cheesman.  
Tralee, Mr. H. Benner.  
Wexford, Mr. Thomas Waring.

FOREIGN:  
Rio de Janeiro, Messrs. Miers Brothers and Mayor, Engineers.  
Odessa and South Russia, Mr. W. Baxter, Engineer, Nicolaieff.  
Belgium, Messrs. Brezels Brothers, Engineers, Antwerp.  
Holland, Mr. Jos. Courlander, the Hague.

# PATENT BITUMINIZED GAS, WATER, AND DRAINAGE PIPES.

These PIPES POSSESS all the PROPERTIES NECESSARY for the CONVEYANCE of GAS and WATER, and also for DRAINAGE PURPOSES—viz., GREAT STRENGTH, GREAT DURABILITY, and PERFECT IMPOSSIBILITY, and being non-conductors are not affected by frost, like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are only one-fourth the weight, and considerably cheaper than iron pipes. They are made in 7 ft. lengths, and the joints are simple and inexpensive. These pipes have been in use in France, Spain, and Italy nearly three years, where the demand for them is very great. The opinions of the press on a public test at the Houses of Parliament, before a large number of engineers and other scientific gentlemen, may be had, with further particulars, at the office of the company, on application to Mr. ALEX. YOUNG, 14, Cannon-street, London, E.C., where sample pipes may be obtained for trial.

# India Office.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA  
IN COUNCIL, notice is hereby given that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before MONDAY, the 26th instant, to RECEIVE PROPOSALS in writing, sealed, and from such persons as may be willing to SUPPLY—  
And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 26th day of August, 1861, after which hour no tender will be received.  
GERALD C. TALBOT, Director-General.  
India Office, August 14, 1861.

# BOROUGH OF LIVERPOOL.

TENDERS FOR SUPPLY OF STONE.—The Health Committee of the Borough of Liverpool are willing to RECEIVE TENDERS for the SUPPLY of STONE for PAVING and for CHANSELS, CURBS, and CROSSINGS, as also for FLAGGING the FOOTWAYS of the BOROUGH.  
Full particulars as to the quantities likely to be required, and all other information, together with form of tender, may be obtained on application by letter to JAMES NEWLANDS, Esq., Borough Engineer, Public Office, 2, Cornwallis-street, Liverpool. The committee do not bind themselves to accept the lowest or any other tender.  
Tenders, sealed and endorsed "Tender for Stone," addressed Health Committee, to be delivered at the office of the Town Clerk, as under, on or before the 14th of Sept. next.  
By order, WM. SHUTTEWORTH, Town Clerk.  
Public Office, Cornwallis-street, Liverpool, August 5, 1861.

# TO CAPITALISTS IN CONNECTION WITH THE COAL AND IRON TRADES.—WANTED, BY AN IRON COALMASTER, A PARTNER OR PARTNERS, who can furnish about £10,000 by instalments, and keep £5000 to be further brought in, if required, within a period of two or three years, making together £15,000, for a MOIETY of a PIG IRONWORK and EXTENSIVE COAL WORKS in WALES, which are capable of an immediate return, and with a little further outlay (part of the capital now required) will make a profit exceeding £20,000 per annum fixed, certain, and free from risks. The property is a most eligible one, on the South Wales Railway, near the best Welsh ports, within an 8s. ride of London, and where large pig and foundry pig of the best quality, as well as tin-plate pig-iron, can be made at an average cost of 35s. per ton, and coal put in the railway wagons on the rail at 2s. per ton, with most extensive markets open. The property is extensive, and contains abundance of the best coal, house, steam, iron making, and coking, as well as black band, claystone, and hematite ore, of which there is a fine field, known as the Llantrisant Mine. The railway passes through the property.—Apply to "E. D." *Mining Journal* office, 26, Fleet-street, London, E.C.

# NEW COLLIERY, NAILSEA, NEAR BRISTOL.—FOR SALE, BY PRIVATE CONTRACT, THE WHOLE OF THE PLANT AND MATERIALS at the above colliery, comprising—

ONE HIGH PRESSURE DIRECT ACTING PUMPING ENGINE, cylinder 45 in. in diameter, and 10 ft. stroke.  
ONE HIGH PRESSURE WINDING ENGINE and gear, cylinder 12 in. diameter.  
ONE HIGH PRESSURE WINDING ENGINE, cylinder 16 in. diameter.  
THREE CYLINDRICAL BOILERS, 41 ft. by 6 ft.  
ONE CYLINDRICAL BOILER, 18 ft. by 4 ft.  
ONE CYLINDRICAL BOILER, 20 ft. by 3 ft. 6 in.  
Hammered iron pumping cranks, T bolts, 19 in., 14 in., 5 in., and 4 in. in. forcing, lifting, and hand pumps; hammered iron straps, double straps and tail joints, buckets, clacks, wrought-iron pistons, lifting screws, chains, large capstan, double-power crab winch, 80 ft. 10 in. capstan rope, 8 in. capstan and other ropes, blocks, boring tools, wrought-iron air pipes, trans plate mill's bellows and tools, wagons, carts, &c.  
To view, apply at the colliery; and for all further particulars, to BODDAM CASTLE, Esq., No. 29, Corn-street, Bristol.

# EXTRA STRONG HORIZONTAL ENGINE in progress, 17 in. cylinder, and 2 ft. 8 in. stroke, complete, with fly-wheel, pump, and can be finished either with governor or link motion.

A capital BLOWING ENGINE, 42 in. steam and 90 in. blowing cylinders, now blowing four furnaces, FOR SALE at Michaelmas next.  
WHEATLEY KIRK AND CO., ARCHIMEDEAN WORKS, ALBERT STREET, ST. MARY'S, MANCHESTER.

# HORIZONTAL STEAM ENGINES FOR SALE, one each of 14, 17, and 20 in. cylinders, 36 in. stroke, quite new. They are especially adapted for mining purposes, and are very substantially made. Also, several of from 6 to 8 horse power.—Apply to Messrs. E. PAGE and Co., Engineers, Laurence Pountney-hill, Cannon-street, E.C.

# PATENT LEVER BREAK, FOR RAILWAY WAGONS, doing away with the objectionable break rack. Can be APPLIED to EXISTING STOCK at a TRIFLING EXPENSE. Royalty moderate. Models can be seen at 34, Great George-street, Westminster; and the breaks in action at the works of the Railway Carriage Company, at the Peterborough Station, on the Eastern Counties Railway; the Rugby Station, on the London and North-Western Railway; the Cardiff Docks Station, on the Vale Railway; and at the Works, Oldbury, near Birmingham, where all communications are requested to be sent.

# BAILEY'S PATENT STEAM GAUGE.—This truly valuable invention is most undoubtedly the only gauge ever invented not affected by those atmospheric changes and many other evil influences, which are the bane of all spring, mercurial, and compressed air gauges.

The grand principle of the gauge being founded upon that sublime law of nature, "GRAVITY," which, like all other natural laws, is unerring and unchangeable—it must continue to indicate correctly to an indefinite period of time.  
After most critical trials and examinations by some of the most eminent locomotive and stationary engineers, mining and manufacturing companies in this kingdom, it is pronounced by them to be "THE ONLY TRULY INDICATING GAUGE NOW IN EXISTENCE."  
HEAD OFFICES:  
30, COOPER STREET, MANCHESTER, Mr. WM. TATE, Sole Wholesale Agent.  
MANUFACTORY:  
ALBION TURRET CLOCK WORKS, SALFORD, MANCHESTER.

# BELL BROTHERS beg to intimate that, having become SOLE LICENSEES in the United Kingdom of PROF. DEVILLE'S METHOD OF PRODUCING FREE ALUMINIUM, they are now in a POSITION to SUPPLY, from their works here, both the metal and its compound with copper, known under the name of ALUMINIUM BRONZE.—Newcastle-on-Tyne, September, 1860.

# RIBDEN MINING COMPANY (LIMITED).—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of the Ribden Mining Company (Limited) will be HELD on THURSDAY, the 27th day of August, 1861, at the Midland Hotel, Derby, at Eleven o'clock A.M., when a special resolution will be proposed, to add to and alter the regulations of the company, by authorising the increase of capital by the creation of new shares, with special privileges as to priority and amount of dividend, or otherwise, as the company in general meeting may determine.

And notice is also hereby given, that in case a resolution to the effect of the foregoing resolution shall be adopted, a further resolution will at the same meeting be proposed, to bear a minimum dividend of £10 per cent., payable out of the dividends when declared, in priority to the ordinary shares of the company, or on such other terms as may at such general meeting be determined on; and for authorising the issue, if necessary, of further preference shares, on the same or such other terms as may at such general meeting of the company be determined on; and for other purposes, whereof due notice shall have been given by any shareholder.  
And further, a special resolution will be proposed to alter the Articles of Association of the company, so as to enable the shareholders to hold their annual meetings at such places, near the mine, as may be from time to time determined by the directors.  
Signed, JNO. B. REYNOLDS, Sec.  
1, Winchester House, Old Broad-street, London, E.C., August 14, 1861.

# ENGLISH AND AUSTRALIAN COPPER COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD on THURSDAY, the 22d inst., at Two o'clock in the afternoon, at the London Tavern, Bishopsgate-street, London, for the purpose of receiving a statement of the company's affairs since the last general meeting, and for the purpose of declaring a dividend. By order, CHAS. B. ROGERS, Sec. N.B.—The transfer books will be closed on Wednesday, the 21st inst., and re-open on Thursday, the 29th inst. Offices, 17, Gracechurch-street, London, August 14, 1861.

# LAKE SUPERIOR, U.S.—MR. G. W. HAMBLIN, Post Master, Negamies Post-office, Marquette County, Lake Superior, U.S., has opened an office as above, for the purpose of supplying mineralogical specimens generally, but more particularly such as are peculiar to the district, to museums and collectors throughout the world. From his acquaintance with the different localities on the Lake, and with mining captains, he has facilities for collecting minerals, also for procuring the rarer sorts. Residing in the centre of the iron district, Mr. Hamblin can furnish specimens of ores of great beauty as cabinet specimens, of which the mammillary and stalactitic forms of hematite are worthy a place in any cabinet. He can also supply specimens of native copper and silver, with the accompanying minerals, many of which occur as crystals, forming rare objects of interest to the collector. Collections made up of all sizes and states of completeness, from the value of \$25 (or £5 sterling) to \$200. Letters of enquiry or conveying orders must be post paid.—P.S.—On receipt of £5 sterling Mr. Hamblin will forward a set of iron specimens; also, native copper and silver. Crystals as follows will be supplied at from \$2 to \$4 each:—Quartz, calc spar (Dog Tooth and other varieties), epidote, greenstone, prehnite (with copper), black oxide copper, analcime, chlorastrolite (found only at Isle Royale), native copper (crystallised), calc spar (with radiated epidote), ripple marked quartz (from the metamorphic strata), and a large variety of others illustrative of the geology and mineralogy of this part of the world. On account of convenience of remittance, the smallest collection which can be forwarded will be \$25 (or £5 sterling).

# LEICESTER AND CO. (late Leicester, Brache, and Teague), CONSULTING MINING ENGINEERS AND SURVEYORS, AND GENERAL MINING AGENTS, MELBOURNE, VICTORIA, PROCURE MINING LEASES ON ELIGIBLE TERMS from the GOVERNMENT of VICTORIA and NEW SOUTH WALES, on receipt of a remittance for £200, to cover costs of lease, survey and report, &c. Messrs. LEICESTER and CO. OFFER TO TAKE the MANAGEMENT of MINING COMPANIES, and PROVIDE OFFICE ACCOMMODATION, for a percentage on the profits of the company.

For further particulars, apply to Mr. RICHARD MIDDLETON, *Mining Journal* office, 26, Fleet-street, London, E.C.  
All remittances must be made through our bankers, the Union Bank of Australia.

# TO ADVENTURERS IN FOREIGN MINES.—MR. HARRY THOMAS VERRAN, of PLACENTIA, NEWFOUNDLAND, who has had considerable experience (under the tuition of his father, and in connection with many other experienced Mining Engineers) is ready to UNDERTAKE the EXAMINATION and REPORTING upon MINERAL PROPERTIES in Newfoundland, the United States, or any other country, where his services may prove useful to capitalists. The greatest confidence may be placed in Mr. VERRAN, who will use his best judgment in giving reliable information to those who may repose confidence in him.

# In Chancery.

TO BE SOLD, BY AUCTION, pursuant to an Order of the High Court of Chancery, made in a Cause of FORMAN v. HARVEY, with the approbation of the Vice-Chancellor Sir John Stuart, a LEASEHOLD MINE, called WHEEL ANXA, producing TIN and COPPER ORE, with VALUABLE PLANT attached, situate in St. Hilary, in the county of Cornwall, in One Lot, by Mr. JOHN LEWIS, the person appointed by the said Judge, at the Auction Mart, Bartholomew-lane, London, on Wednesday, the 11th day of September, 1861, at Twelve of the clock on noon.  
Particulars and conditions of sale may be had gratis of Messrs. OLIVERSON, LAVIE, and PEACHEY, solicitors, 8, Frederick's-place, Old Jewry, London; Messrs. DANGERFIELD and FRASER, solicitors, 26, Craven-street, Charing-cross, London; Messrs. WORDSWORTH, GREATHEAD, and BLAKE, solicitors, South Sea House, Threadneedle-street, London; JOHN TAYLOR, Esq., solicitor, 7, Gray's Inn-square, Holborn, London; and at the Auction Mart; at the Hotels, Marlborough, Cornwall; and of the auctioneer, at his offices, in Redruth, Cornwall.  
ALFRED HALL, Chief Clerk.  
OLIVERSON, LAVIE, and PEACHEY, Plaintiffs Solicitors.

VALUABLE and IMPORTANT ESTATE, containing about 225 acres, at HEDNESFORD and LEACROFT, in the PARISH of CANNOCK, STAFFORDSHIRE, including the celebrated HOTEL, the "CROSS KEYS," at Hednesford, HOUSES, and OTHER BUILDINGS in the village, and LANDS immediately in connection with and adjoining to the Hednesford New Colliery, the Cannock Mineral Railway, and the canal wharf and tramway now in course of formation by the Birmingham Canal Company.

MESSRS. E. AND C. ROBINS WILL SELL, BY AUCTION, on Wednesday, the 21st day of August next, at the Swan Hotel, Wolverhampton, at Four o'clock in the afternoon, the VALUABLE ESTATE, called the "CROSS KEYS," at HEDNESFORD, the principal part whereof is freehold and a small portion copyhold, containing about 225 acres, including the HOTEL, TRAINING STABLES, FARM and OTHER BUILDINGS, occupied by Mr. John Wilkins and others. Also, various HOUSES, TRAINING STABLES, OTHER BUILDINGS, and LANDS in and about the village, and extending from the Cross Keys Hotel and Mr. Pigott's Hednesford New Colliery to the line of the Cannock Mineral Railway. The high road from Cannock to Rugeley passes through the estate.  
The recently-constructed railways and canals have already advanced the neighbourhood, and occasioned an extensive application of land for villa and general building purposes. Public works in contemplation will confer still further benefits. The large quantity of coal raised on Cannock Chase, and particularly at Mr. Pigott's Hednesford New Colliery, adjoining this property, clearly indicates the existence of mines in the estate, and experienced practical miners have reported them of unquestionable quality and great value.  
The enclosure of the wastes now in progress will, as in the case of other parishes that have already been enclosed, most materially alter and improve the character and value of the district. The estate will be first offered in one lot, but if not sold, will be immediately put up in about nine lots.  
Particulars, with plans and conditions of sale, will speedily be prepared, and may be procured from Messrs. BARKEE, BOWKER, and PEAKE, solicitors, 1, Gray's Inn-square, London; Mr. PEAKE, land agent, Chartley Manor-house, near Stafford; Mr. BAILEY, mineral agent, the Fleck, near Walsall; at the Cross Keys at Hednesford; the Swan Hotel, Wolverhampton; and from E. and C. ROBINS, surveyors and auctioneers, New-street, Birmingham.

# RUABON, DENBIGHSHIRE. SALE OF VALUABLE LANDS, COAL FIELD, AND SHARE OF TITHE RENT CHARGE.

MR. JOHNSON WILL SELL, BY AUCTION, at the Wynnstay Arms Hotel, Ruabon, on Friday, the 6th September next, at Five o'clock in the afternoon (unless previously disposed of by private treaty, of which due notice will be given), subject to conditions to be produced at the time of sale, and in the following and such other lots as shall then and there be determined, the following estates:  
Lot 1.—All that MESSAGE or TENEMENT, FARM, LANDS, and PREMISES, called TY-MAWR, situate in the township of Coed Christionydd, in the parish of Ruabon, in the county of Denbigh, containing by admeasurement 41 A. 0r. 12 P., or thereabouts, together with the VALUABLE SEAMS of COAL and MINERALS thereunder, now in the occupation of John Dicken, Esq.  
Lot 2.—All those THREE SUBSTANTIAL MESSAGES, or COTTAGES and GARDENS, situate near to the said farm, at Cefn Bychan, in the aforesaid township, in the several occupations of Robert Wright, William Jones, and Mary Edwards. These cottages let well, and now realise, at a very low rental, £11 18s. per annum.  
Lot 3.—All that ONE UNDIVIDED MOIETY, or equal HALF PART or SHARE of John Morris, Esq., of and in a certain RENT CHARGE, in lieu of tithes issuing out of and chargeable on lands in the township of Coed Christionydd aforesaid, amounting to the annual sum of £42, payable to the said John Morris and Mr. Nathaniel Jones. This lot will be offered separately or jointly with Ty-Mawr (Lot 1), as may be agreed upon at the time of sale.  
The above tenement and lands contain the best seams of the Ruabon coal field, which require only an outlay of some capital to render the working thereof very profitable, and yield a good return. The estate is in immediate proximity to the Shrewsbury and Chester Railway, which runs on one side parallel with it, and close to the homestead. Fuel and minerals will be offered in one lot, or separately, as may be determined at the sale.  
Further particulars to be obtained from JOHN MORRIS, Esq., Spencer Villa, Leeds; at the offices of Mr. WYATT, solicitor, Wrexham, where a map of the estate may be inspected; or from the auctioneer.

# TREWOLLS TIN AND COPPER MINE, IN WENDRON.

TO BE SOLD, BY AUCTION, on Wednesday, the 21st day of August inst., at the Star Inn, in the borough of Helston, at Three o'clock in the afternoon, ONE HUNDRED SHARES in the TREWOLLS MINE, in the parish of Wendron, in lots of 5, 10, or more, as may be agreed on at the time of sale.  
The Trewolls Mine is divided into 2048 shares, on the Cost-book System, and is situate near Trenethick, in Wendron, and within two miles of Helston.  
The mine was set on foot as a tin mine, and is still returning fair quantities monthly, with every prospect of becoming rich in that character; but a very splendid copper lode has lately been discovered, from which quantities of copper ore are now being raised, and within the last month the workmen removed from this lode one block of rich copper ore weighing upwards of a ton.  
The advertiser, therefore, courts an inspection by all persons desirous of purchasing for which purpose the agents on the mine will afford every facility; and all other information may be obtained on application to Mr. T. H. EDWARDS, conveyancer, Helston.  
Dated August 7, 1861.

# A 20 in. cylinder HORIZONTAL CONDENSING STEAM ENGINE, CRUSHER, ROLLERS, PUMPS, and MINING APPARATUS.

TO BE SOLD, BY AUCTION, on Thursday, the 29th August, at Twelve o'clock, at the BALLYVIRGIN MINE, near Ennis, Ireland, a first-rate HORIZONTAL STEAM ENGINE, 20 in. cylinder, condenser, with a 7 tons boiler and outfit, complete; CRUSHER, 24 in. diameter; HAULING and PUMPING MACHINERY and connections, by Messrs. Nicholls, Williams, and Co., of the Bedford Foundry, Tavistock, in perfect order, and nearly new.  
Also, every description of MINING APPARATUS, consisting of pumps, weighbridge, railway iron, castings, chains, miner's dill and stand, and tools of every description.  
For further particulars, apply to E. FICHOFF, Esq., 3, Pinner's-court, Old Broad-street, London; Mr. THOMAS DE LA HUNTY, Ballyvirgin Mine, Ennis; or Mr. RICHARD PRAS, auctioneer, Ennis. The Ballyvirgin Mine is midway between Ennis and Tulla, in the county of Clare, Ireland.

# WHEEL BAL, ST. JUST.

TO BE SOLD, BY TENDER, in One Lot, WHEEL BAL MINE and MATERIALS, situate in the parish of St. Just, and consisting of a 20 inch cylinder PUMPING ENGINE, with 8 ton BOILER; a 24 in. STEAM WHIM, with a 10 ton BOILER, and 16 heads of stamps attached, and all necessary machinery and pit-work required for the further prosecution of the mine. This mine is bounded on the north and west by Levant, Spear Moor, Boscawell, and Pendennis Mines, and offers a favourable opportunity for intending speculators.  
Tenders will be received by the pursuer, Mr. JOHN THOMAS WHITE, St. Just, up to Wednesday, the 28th August inst.—Dated August 12, 1861.

# NORTH WALES. A VALUABLE COPPER MINE, near PORTMADOC, county of CARNARVON, TO BE DISPOSED OF, BY PRIVATE CONTRACT.

This mine is distant about eight miles from the shipping port of Portmadoc, and has been worked to advantage some years ago. Since then it has been constructed to within a mile and a half of the mine. The use thereof, for the transition of all minerals and goods between the mine and shipping port, is secured at 1s. 6d. per ton. This invaluable acquisition, as compared when last worked, facilitates the development of the mine beyond conception. There are several drivings, &c., driven to prove the ground, and also a sink, which exhibits a lode or vein of excellent copper ore, of from 10 to 12 in. wide, and continually widening as it deepens. The ground possesses every indication of its abounding in ore. Capitalists will find this a most secure and profitable investment, at a comparatively small outlay.  
Also, a VALUABLE SLATE QUARRY, situate at the entrance of the celebrated Nantlle Vale (where are the most remunerative slate quarries in the Principality of Wales, in proportion to their extent), is within eight miles of the shipping port of Carnarvon, two miles of which is a good turnpike-road, to which the quarry is contiguous, and the remaining six miles is a tramroad for general use. The quarry has been opened many years ago, and was worked to profit; it consists of sizable beds of slates, of excellent quality, being a continuation of the celebrated Kilgwyn vein. There is no doubt of its becoming a profitable concern, without undergoing the risk and expense of opening.  
For further particulars concerning the mine and quarry, apply to Mr. JOHN JONES, draper and grocer, near Dolbenham, Carnarvon.

# DERBYSHIRE. THE ALDERWASLEY FORGE AND WORKS, NEAR THE AMBERGATE STATION ON THE MIDLAND RAILWAY.—TO BE LET, on a lease for 7, 14, or 21 years, and may be entered upon immediately, the above-mentioned FORGE and WORKS, with the STORE ROOMS, OFFICES and BUILDINGS, together with the WATER-WHEELS of 70 horse power and MACHINERY belonging thereto, late in the occupation of Messrs. Mold, who for nearly 50 years carried on a lucrative and extensive business as ironmasters at the said works, and are all on a newly-erected MESSAGE, or DWELLING HOUSE, very pleasantly situated near the said works, with the green-house, stables, coach-house, and capital garden belonging thereto, and upwards of 30 acres of excellent land, and 15 workmen's houses and counting-house, near or contiguous to the works.

The works are situated within half a mile of the Ambergate station on the Midland Railway, and the Cromford and Belper turnpike-road, the branch railway from Ambergate to Rowsley (on which there is a siding and wharf for the use of the works), are all in the Cromford Canal (attached to which is a wharf also for the use of the works), and all parallel therewith and immediately contiguous thereto, and afford excellent railway and canal transit to and from London, Leeds, Nottingham, Derby, and all parts of the kingdom; and the extension of the railway from Rowsley to Buxton, now in progress, will give a direct communication with Manchester, Liverpool, &c.  
The works are also available for saw-mills on an extensive scale, or for any other purpose requiring power and facility of transit.  
For further particulars, and to treat, application may be made to Messrs. WOODWARD and JEFFREY, civil and mining engineers, Derby; or at the offices of Messrs. NEWBOLD and SOW, solicitors, Matlock; from whom tickets may be obtained to inspect the works.



**A BOON TO NERVOUS SUFFERERS.**  
**TWENTY THOUSAND COPIES OF A MEDICAL BOOK**  
 gratuitous circulation. HENRY SMITH, Doctor of Medicine of the Royal University of Jena, &c., who has devoted 15 years to the study and Treatment of Nervous Debility, Loss of Memory, and Indigestion, will send free, for the benefit of Nervous Sufferers, a copy of the **NEW MEDICAL GUIDE**, containing his highly successful mode of treatment, with necessary instructions by which sufferers may obtain a cure. Free on receipt of a stamped directed envelope, from the author's residence, 8, Brunswick-square, Tavistock-square, London, W.C.



## THE MINING SHARE LIST.

## DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
4000	Bedford United (copper), Tavistock	2 6 8.	50	4 1/4 3/4	12 7 0.	0 3 6—June, 1861
240	Boscan (tin), St. Just	20 10 0.	50	—	33 0 0.	1 10 0—May, 1861
300	Botalack (tin), St. Just	91 5 0.	240	—	443 5 0.	2 10 0—Feb. 1860
1000	Carn Brea (copper), Illogan	15 0 0.	70	65 70	269 10 0.	2 0 0—Feb. 1861
2048	Carnyorth (tin), St. Just	3 10 0.	13 1/2	—	0 19 6.	0 2 0—Sept. 1860
300	Cefn Cwm Brynno (lead), Cardiganshire	38 0 0.	34	—	9 0 0.	4 0 0—April, 1861
80000	Comorres (copper), Llanidloes	1 0 0.	24	—	0 0 0.	0 0 0—July, 1861
2400	Cook's Kitchen (copper), Illogan	17 0 9.	27	24 1/2 25 1/2	0 8 0.	0 8 0—May, 1861
12000	Copper Miners of England	25 0 0.	25	—	7 1/2 per cent.	—Half-yearly.
350000	Croft (stock)	100 0 0.	24	—	5 13 0.	0 5 0—July, 1861
1055	Cradock Moor (copper), St. Cleer	8 0 0.	28	—	5 8 0.	1 0 0—June, 1861
867	Cwm Eryn (lead), Cardiganshire	7 10 0.	16 1/2	—	227 10 0.	5 0 0—May, 1861
128	Cwmystwith (lead), Cardiganshire	60 0 0.	240	—	142 0 0.	5 0 0—June, 1861
200	Derwent Mines (sil.-lead), Durham	300 0 0.	180	—	760 0 0.	7 0 0—July, 1861
1024	Devon Gt. Con. (cop.), Tavist. [S.E.]	1 0 0.	355	345 355	633 10 0.	7 0 0—Aug. 1861
358	Dolcoath (copper), tin, Camborne	128 17 6.	610	—	87 0 0.	5 0 0—July, 1861
512	East Bassot (cop.), Redruth [S.E.]	29 10 0.	76	74 76	0 17 6.	0 10 0—July, 1861
6144	East Cardon (copper), St. Cleer [S.E.]	2 14 6.	67	23 1/2 24 1/2	76 10 0.	1 0 0—June, 1861
300	East Darnley (copper), Cardiganshire	32 0 0.	67	—	20 3 0.	0 5 0—May, 1861
1400	East Wheal Loevel (tin), Wendron	2 10 0.	—	—	41 9 3.	0 2 0—June, 1861
4000	Eram Mining Co. (lead), Derbyshire	1 0 0.	—	—	61 8 3.	1 0 0—Dec. 1860
4040	Fowey Consols (copper), Tywardreath	4 0 0.	—	—	0 11 0.	0 3 0—July, 1861
2500	Foxdale, Isle of Man, Limited (lead)	25 0 0.	35	—	7 13 0.	0 5 0—Feb. 1861
5000	Frank Mills (lead), Devon	3 18 6.	44 1/2	—	1 0 0.	0 10 0—May, 1861
6000	Great South Tolgus [S.E.], Redruth	0 14 6.	3 1/2	3 1/2 3 3/2	0 8 0.	0 5 0—Mar. 1861
1788	Great Wheal Fortune, Breage	18 0 0.	11	10 1/2 11 1/2	14 10 0.	2 0 0—June, 1861
5908	Great Wh. Vor (tin, cop.), Helston [S.E.]	40 0 0.	6	—	6 15 0.	0 15 0—Feb. 1861
1024	Herodfoot (id.), near Liskeard [S.E.]	8 10 0.	34 1/2	33 34	375 10 0.	5 0 0—May, 1861
1000	Hibernian Mine Company	92 6 2.	—	—	1 1 0.	0 5 0—July, 1861
140	Levant (copper), tin, St. Just	2 10 0.	25	—	7 10 0.	7 0 0—Aug. 1861
400	Liburnia (lead), Cardiganshire, Wales	18 15 0.	25	—	0 6 0.	0 9 0—Mar. 1861
9000	Marka Valley (copper), Cardon	4 10 0.	9 1/2	9 1/2 10 1/2	0 10 0.	0 10 0—May, 1861
5000	Mendip Hills (lead) [L.]	3 15 0.	14 1/2	—	0 2 0.	0 2 0—May, 1861
1800	Mineral Mining Co. (L.), (id.), Wrexham	25 0 0.	180	—	12 15 7.	1 0 0—Mar. 1861
30000	Mining Co. of Ireland (cop., lead, coal)	7 0 0.	14 1/2	—	0 2 0.	0 2 0—May, 1861
400	Mount Pleasant, Mold	4 0 0.	25	—	0 10 0.	0 10 0—May, 1861
6000	New Birch Tor and Vitrifer Consols	1 6 8.	2	1 1/2 2	0 2 0.	0 2 0—May, 1861
1366	North Gambler, Redruth	2 7 6.	—	—	0 10 0.	0 10 0—May, 1861
6000	North Great Work, Breage	1 3 0.	4 1/2	—	0 2 0.	0 2 0—May, 1861
400	Orehead (lead), Flintshire	0 8 1/2.	1 1/2	—	0 6 0.	0 9 0—Mar. 1861
6000	Par Consols (cop.), St. Blaise (cop.)	1 2 0.	—	—	0 6 0.	0 9 0—Mar. 1861
200	Parys Mines (copper), Anglesey [L.]	50 0 0.	—	—	7 10 0.	2 10 0—Apr. 1861
200	Phanix (cop.), tin, Linkinghorne	100 0 0.	435	—	449 10 0.	0 55 0—May, 1861
1772	Poiborro (tin), St. Agnes	—	—	—	6 9 6.	0 15 0—Apr. 1861
1120	Providence (tin), Uny Lelant [S.E.]	10 6 7.	35	32 1/2 35	59 15 0.	1 0 0—May, 1861
16	Rhoswari (tin), Uny Lelant [S.E.]	50 0 0.	—	—	1250 0 0.	100 0 0—
512	South Cardon (cop.), St. Cleer [S.E.]	1 5 0.	305	—	351 0 0.	5 0 0—July, 1861
512	South Tolgus (cop.), Redruth, Cornwall	8 0 0.	40	—	103 10 0.	1 0 0—July, 1861
496	South Wheal Francis, Illogan [S.E.]	18 18 0.	120	117 1/2 122 1/2	355 5 0.	1 0 0—July, 1861
280	Spearmoor (tin, cop.), St. Just	31 17 9.	45	—	9 15 0.	1 0 0—June, 1861
200	St. Ives Consols (tin), St. Blaise (cop.)	8 17 6.	41	29 31	484 0 0.	15 0 0—May, 1861
9000	Tamar Con. (sil.-id.), Beeralston [S.E.]	4 10 0.	34	—	5 6 0.	0 2 0—June, 1861
6000	Tinroff (cop., tin), Pool, Illogan [S.E.]	9 0 0.	5 1/2	—	10 8 0.	0 5 0—Feb. 1861
6000	Tolvaaden (copper), Marazion	—	3 1/2	—	0 13 0.	0 3 0—Mar. 1861
572	Trellyn Consols (tin), St. Ives	11 10 0.	12 1/2	—	7 0 0.	0 10 0—Sept. 1860
200	Trumpet Consols (tin), near Helston	57 10 0.	100	—	52 0 0.	2 0 0—May, 1861
1024	Wendron Consols (tin), Wendron	11 13 0.	16	—	8 15 0.	1 0 0—Jan. 1861
6000	West Bassot (copper), Illogan [S.E.]	1 10 0.	17	14 16	21 15 0.	0 5 0—July, 1861
400	West Burton Gill (lead), Yorkshire	50 0 0.	—	—	14 10 0.	3 0 0—June, 1861
1024	West Cardon (cop.), Liskeard [S.E.]	5 0 0.	42	38 40	98 1 3.	1 10 0—July, 1861
256	West Darnley (copper), Gwennap	87 0 0.	65	—	45 0 0.	1 0 0—May, 1861
4000	West Fowey Consols (tin and cop.)	7 10 0.	11	—	0 10 0.	0 2 0—June, 1861
400	W. Wh. Seton (cop.), Camborne [S.E.]	47 10 0.	290	290 295	315 0 0.	7 0 0—Aug. 1861
512	Wheal Bassot (copper), Illogan [S.E.]	5 2 8.	80	85 90	572 10 0.	2 0 0—Aug. 1861
256	Wheal Buller (cop.), Redruth [S.E.]	—	95	85 95	929 0 0.	2 0 0—May, 1861
400	Wheal Clifford (cop.), Gwennap [S.E.]	—	150	—	89 10 0.	2 0 0—Apr. 1861
2000	Wheal Falmouth and Sperries	2 5 0.	8	—	0 10 0.	0 10 0—Feb. 1861
128	Wheal Friendship (copper), Devon	50 0 0.	90	—	2400 10 0.	5 0 0—Feb. 1861
512	Wheal Jane (silver-lead), Kea	8 10 0.	18	—	10 10 0.	1 0 0—Feb. 1860
1024	Wheal Kitty (tin), Uny Lelant [S.E.]	1 7 2.	11	—	8 0 0.	0 10 0—Sept. 1860
4900	Wheal Luddett (lead), St. Ives	3 10 8.	2 1/2	2 1/2 3 1/2	1 8 0.	0 4 0—July, 1861
204	W. Wh. Margaret (tin), Uny Lelant [S.E.]	8 17 6.	41	40 42 1/2	6 0 0.	1 10 0—May, 1861
100	Wheal Mary (tin), Lelant	36 2 0.	44 1/2	—	280 5 0.	7 0 0—June, 1861
1024	W. Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0.	9 1/2	7 1/2 8 1/2	53 17 6.	0 10 0—June, 1861
80	Wheal Owles, St. Just, Cornwall	70 0 0.	300	—	275 13 0.	5 0 0—May, 1861
5000	Wicklow (copper) [L.]	5 0 0.	59	59	41 17 6.	2 12 6—Mar. 1861

\* Dividends paid every two months. † Dividends paid every three months.

## MINES WITH DIVIDENDS IN ABEYANCE.

700	Aberdovey (silver-lead), Merioneth	1 10 0.	30	—	0 10 0.	0 10 0—Mar. 1859
5120	Alfred Consols (cop.), Phillack [S.E.]	2 17 1.	1 1/2	1 1/2 1 1/2	20 3 0.	0 2 0—Apr. 1859
1200	Bailewadden (tin), St. Just	11 5 0.	12	—	12 8 0.	0 5 0—Jan. 1861
1200	Brightdale & Froggatt Grove, Derbyshire	3 0 0.	3 1/2	—	0 0 0.	3 0 0—Apr. 1859
2500	Central Miners (L.), [L.]	0 15 0.	6 1/2	—	0 13 0.	0 4 0—Sept. 1859
6000	Charlotte Con. (sil.-id.), Perranarabuth	5 0 0.	1 1/2	—	0 3 0.	0 4 0—Sept. 1859
2000	Collacomb (copper), Lamerton	5 0 0.	1 1/2	—	3 8 0.	0 8 0—Dec. 1857
256	Conduwro (cop., tin), Camborne	20 0 0.	60	—	85 0 0.	2 0 0—June, 1857
256	Copper Hill (copper), Redruth	48 0 0.	95	85 90	2 10 0.	2 10 0—Sept. 1859
4076	Devon and Cornwall (copper)	4 16 3.	6	—	0 10 0.	0 2 0—Feb. 1859
672	Ding Dong (tin), Guisulva	39 2 6.	19	—	16 7 6.	1 10 0—Mar. 1857
128	East Pool (tin, cop.), Pool, Illogan	24 5 0.	400	—	0 13 0.	0 2 0—Sept. 1857
6000	General Mining Co. for Ireland (cop., id.)	4 0 0.	5 1/2	5 1/2	1 8 0.	0 3 0—June, 1858
496	Gambler and St. Aubyn (cop.), [L.]	47 10 0.	11	—	23 14 0.	0 1 0—May, 1857
119	Great Work (tin), Gernoe	100 0 0.	110	—	22 10 0.	7 10 0—July, 1857
200	Harward United (lead), Flintshire	40 0 0.	10	—	3 0 0.	0 10 0—July, 1860
6000	Hingston Down Con. (cop.), Cals. [S.E.]	4 16 6.	2	1 1/2 2	2 16 0.	0 2 0—Nov. 1856
6000	Kelly Barr (lead, copper), Callington	4 6 0.	1 1/2	—	0 6 0.	0 2 0—Feb. 1860
20	Laxey Mining Company, Isle of Man	100 0 0.	1200	—	1420 0 0.	0 50 0—June, 1857
470	Newtownards Mining Co., Co. Down	50 0 0.	35	—	56 0 0.	1 0 0—Sept. 1859
1000	North Dolcoath (copper), Camborne	2 6 1/2.	1 1/2	—	0 5 0.	0 2 0—June, 1859
700	North Roskear (copper), Camborne	16 0 0.	18	15 16	157 0 0.	4 0 0—Sept. 1853
1024	Rosewarne and Herland United	11 8 10.	36	—	2 10 0.	0 10 0—Oct. 1859
512	Rosewarne (cop., tin), Gwennap	18 4 4.	24	—	33 10 0.	1 0 0—Sept. 1859
19000	Sordridge Con. (cop., tin), Gwennap [S.E.]	0 16 0.	13 1/2	10 1/2 12 1/2	0 10 0.	0 1 0—May, 1857
128	South Crinns (copper), St. Austell	13 0 0.	280	—	60 0 0.	0 20 0—Oct. 1857
20000	St. Day United (tin and cop.), Redruth	2 7 0.	36	—	0 3 0.	0 1 0—Feb. 1858
400	United Mines (copper), Gwennap	55 0 0.	36	—	80 5 0.	2 10 0—Apr. 1860
30000	Valley of Towy (lead), Carmarthen [S.E.]	0 13 6.	6 1/2	—	0 5 0.	0 1 0—July, 1859
1024	West Providence (tin), St. Erth	15 15 0.	3 1/2	—	33 1 10.	0 10 0—Apr. 1857
240	Wheal Bad (tin), St. Just	15 0 0.	16	—	4 0 0.	1 0 0—Feb. 1858
4096	Wheal Edward (cop.), Calstock [S.E.]	7 7 6.	2 1/2	2 1/2 2 1/2	0 5 0.	0 5 0—Mar. 1858
1024	Wheal Gylis (tin), Perranarabuth	1 4 0.	4	—	1 12 0.	0 7 0—Nov. 1859
345	Wheal Kitty (tin), St. Agnes	4 16 6.	36	—	0 18 6.	0 2 0—July, 1859
1024	Wheal Margery (tin, cop.), Camborne	33 0 0.	7 1/2	—	0 10 0.	1 0 0—Sept. 1856
396	Wheal Seta (tin, cop.), Camborne	58 10 0.	60	80	131 15 0.	1 10 0—Dec. 1859
1040	W. Wh. Trelawny (sil.-id.), Liskeard [S.E.]	5 17 6.	14	13 1/2 14	43 15 0.	1 0 0—Oct. 1860
1022	Wheal Trelawny (tin, cop.), Gwennap	12 16 6.	5	—	10 2 6.	0 7 0—Jan. 1854
4096	Wheal Wrey Consols (lead), St. Ives	3 9 0.	3 1/2	3 1/2 3 1/2	2 12 6.	0 2 0—Dec. 1857

## FOREIGN MINES.

2464	Burra Burra (cop.), South Australia	5 0 0.	132	135	265 0 0.	5 0 0—June, 1861
12000	Cobre Con. (cop.), Cuba [S.E.]	40 0 0.	36 37	—	97 12 0.	1 0 0—July, 1861
10000	Copiapu Mining Company, Chile [S.E.]	16 0 0.	8	—	0 8 0.	0 5 0—Jan. 1861
15000	East Indian Coal, Calcutta [L.]	10 0 0.	10	—	7 1/2 per cent.	—Yearly.
70000	English and Australian [S.E.]	5 0 0.	3 1/2	—	1 2 6.	0 5 0—Feb. 1861
25000	Gen. Mining Assoc., Nova Scotia [S.E.]	20 0 0.	24	—	18 5 0.	1 0 0—June, 1861
60000	Kapunda Mining Co., Australia [S.E.]	1 0 0.	2 1/2	2 1/2 2 1/2	0 8 0.	0 2 0—June, 1861
15000	Lunars (id.), Pozo Ancho, Spain [S.E.]	3 0 0.	7 1/2	7 1/2	8 6 2.	0 3 0—July, 1861
10000	Linare (id. of Portugal) [S.E.]	2 0 0.	2	—	0 18 9.	0 1 0—Aug. 1861
103515	Marquette and New Granada [S.E.]	1 0 0.	1 1/2	1 1/2 1 1/2	0 9 6.	0 1 0—July, 1859
100000	Port Phillip Gold, Clunes [S.E.]	1 0 0.	1 1/2	1 1/2 1 1/2	0 4 0.	0 1 0—July, 1859
11000	St. John del Rey [L.]	15 0 0.	35 36	—	43 5 0.	2 10 0—June, 1861
20000	West Canada Mining Company [L.]	1 0 0.	1 1/2	—	0 2 0.	0 2 0—June, 1860

## FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Alten and Quenangen (tin), (cop.) [L.]	4 10 0.	3	—	4 5 0.	0 15 0—Nov. 1853
10000	Barrier Land, Min. Ac. N. Ze. [L.]	4 5 0.	3 1/2	—	15 per cent.	—May, 1859
10000	Pontigbaud (sil.-lead), France [S.E.]	20 0 0.	4	—	1 0 0.	1 0 0—June, 1855
49174	Un. Mexican (sil.-id.), Mexico [S.E.]	20 0 0.	4 1/2	4 1/2 4 1/2	1 16 0.	0 4 0—Feb. 1853

## NON-DIVIDEND FOREIGN MINES.

# NON-DIVIDING FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
20000	Australian (copper), South Australia [S.E.]	7 7 6	1 1/2	—	Sept. 1858
75000	Bon Accord, South Australia (copper) [L.] [S.E.]	0 17 6	1 1/2	3 1	Dec. 1859
6000	Central American (silver) [L.]	5 0 0	8 1/2	—	Feb. 1859
17000	Central Italian (copper) [70000 paid]	5 0 0	—	—	—
60000	Clarendon Consols (copper), Jamaica [S.E.]	0 17 6	—	—	Jan. 1861
10000	Copiapo Smelting [L.], Chili	10 0 0	8 1/2	—	Fully paid
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	1	—	Fully paid
30000	East Kongsberg Native Silver Mining Co. of Norway [L.] [S.]	1 0 0	3 1/2	—	April, 1861
50000	Ellerslie and Bardowie, Jamaica	0 18 0	1 1/2	—	July, 1858
8000	English and Canadian Mining Company [L.]	5 0 0	—	—	Fully paid
25000	Fortuna (lead), Spain [L.] [S.E.]	2 0 0	2 1/2	—	Fully paid
80000	Goepf Northey (copper), South Australia [L.] [S.E.]	1 0 0	1 1/2	1 1/2	—
4000	Hope Silver-Lead and Copper Co. [L.], Jamaica	25 0 0	—	—	—
50000	Imperial Thessalian (lead, &c.), Thessaly [L.] [S.]	10 0 0	3 1/2	—	Fully paid
30000	Lagunazo (sulphur, copper), Portugal [L.] [S.]	0 10 0	3 1/2	—	May, 1858
60000	New Granada (gold), South America [S.E.]	1 0 0	3 1/2	—	Fully paid
10000	New Grand Duchy of Baden (silver-lead), near Freiburg	1 0 0	1	—	Nov. 1858
60000	New Rhine Copper of South Australia [L.] [S.]	0 12 6	—	—	June, 1858
15000	Pachuca Silver Mining Company, Mexico [L.] [S.]	0 10 0	1 1/2	—	April, 1861
80000	Scottish Australian Mining Company [L.] [S.]	0 10 0	3 1/2	—	Nov. 1858
50000	South European Mining Company, Spain [L.] [S.]	3 0 0	—	—	May, 1861
50000	St. John's of Newfoundland, Newfoundland [L.] [S.]	0 10 0	3 1/2	—	Mar. 1858
45000	Victor Emanuel, Italy [L.] [30,000 pref. Shares, 5s. pd., 25,000 1st pd.]	1 1 1/2	1 1/2	—	Mar. 1861
1000	Western Africa Malachite (copper) [L.]	4 0 0	1 1/2	—	Oct. 1858
12000	Wheat Ellen, South Australia [L.] [S.]	1 0 0	2 1/2	—	July, 1861
35425	Wheat Jamaica (copper)	1 0 0	18 1/2	—	—
90000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	3 1/2	3 1/2	Fully paid